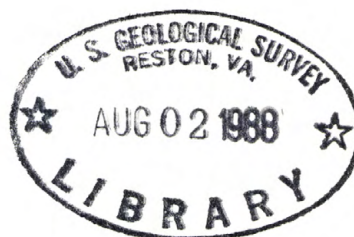


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Water Resources Data West Virginia Water Year 1986

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U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WV-86-1
Prepared in cooperation with the State of West Virginia
and with other agencies

1985

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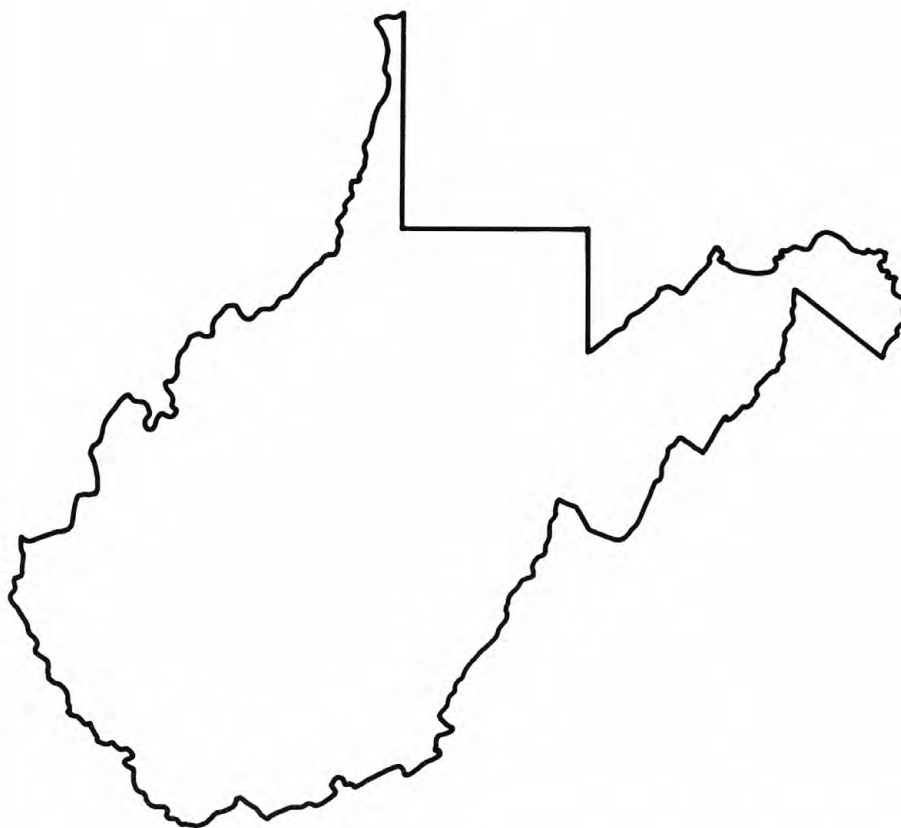
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Water Resources Data West Virginia Water Year 1986

by S.M. Ward, E.A. Friel, F.M. Taylor and G.M. Ferrell



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WV-86-1
Prepared in cooperation with the State of West Virginia
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in West Virginia write to
District Chief, Water Resources Division
U.S. Geological Survey
603 Morris Street
Charleston, West Virginia 25301

1988

PREFACE

This volume of the annual hydrologic data report for West Virginia is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface-and ground-water data-collection networks in each State, Puerto Rico, and Trust Territories. These records of streamflow, ground-water levels, and water quality provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. The authors had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines. The following individuals contributed significantly to the collection, processing, and tabulation of the data:

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This report was prepared in cooperation with the State of West Virginia and with other agencies under the general supervision of D. H. Appel, District Chief.

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16. Abstract (Limit: 200 words) Water-resources data for the 1986 water year for West Virginia consist of records of stage, discharge, and water quality of streams; contents of reservoirs; and water levels of observation wells. This report contains discharge records for 79 streamflow-gaging stations; stage only records for 12 gaging stations, and 2 crest-stage partial-record stations; (2) contents for 1 reservoir, and change in contents for 1 reservoir; (3) water-quality records for 20 streamflow-gaging stations; and (4) water-level records for 33 observation wells. Locations of these sites are shown on figures 4 and 5. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in West Virginia.			
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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Letter after station name designates type of data: (d) discharge, (e) gage-height, (c) chemical, (sK) conductance, (pH) pH units, (t) temperature, (DO) dissolved oxygen, (U) turbidity, (s) sediment, (b) biological, (l) elevation and content

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* Records furnished by Mid-Atlantic District, U. S. Geological Survey.

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* Records furnished by Mid-Atlantic District, U.S. Geological Survey.

GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED

<u>County</u>	<u>Well number</u>	<u>Local number</u>	<u>Location</u>	<u>Page</u>
BERKELEY	392725077582401	20-5-7	Martinsburg	175
BRAXTON	384003080462601	34-2-15	Gassaway	175
BROOKE	401216080362703	P-1	Bethany	175
GILMER	385604080495901	33-3-1	Glenville	176
GRANT	391652079181401		Mount Storm	176
GREENBRIER	374804080174001	45-8-2	White Sulphur Springs	176
	375747080465901	M005	Rainelle	177
HAMPSHIRE	391257078404601	23-6-46	Augusta	177
HARDY	385714078441301	25-4-5	Trout Pond Recreation Area	177
LEWIS	390553080280802	16-1-9	Jackson's Mill	178
	390008080283401	SJ4	Brownsville	178
MARION	393101080150501		Farmington	178
	393057080161901		Farmington (west)	179
MASON	385451082062001	38-3-54	Point Pleasant (north)	179
MERCER	372149081055001	48-5-1	Princeton	180
MINERAL	392114079081101	22-5-23	Sulphur City	180
MINGO	373554081493401		Justice	180
MONONGALIA	394006080194801	9-1-47	Wadestown	181
	392923079571801	9-7-33	Halleck	181
MORGAN	393043078174001	19-5-14	Berkeley Springs	181
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PRESTON	393306079474501	11-3-8	Masontown	182
PUTNAM	382545081553101		Winfield	183
RANDOLPH	385341079575401	18-3-110	Coalton	183
	385100079522901	H-63	Beverly	183
RITCHIE	391226081024901	28-3-3	Harrisville	183
TUCKER	390135079275601	15-6-17	Canaan Valley State Park	184
TYLER	393211081021201	B028	Sistersville	184
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WATER RESOURCES DATA - WEST VIRGINIA, 1986

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of West Virginia each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - West Virginia."

This report includes records on both surface and ground water in the State. Specifically, it contains: (1) Discharge records for 79 streamflow-gaging stations; stage only records for 12 gaging stations, and 2 crest-stage partial-record stations; (2) contents for 1 reservoir, and change in contents for 1 reservoir; (3) water-quality records for 20 streamflow-gaging stations; and (4) water-level records for 33 observation wells. Locations of these sites are shown on figures 4 and 5. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in West Virginia.

This series of annual reports for West Virginia began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this series and for several water years concurrent with it, water resources data for West Virginia were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 6A and 6B." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from the U. S. Geological Survey, Books and Open-File Reports, Federal Center, Bldg. 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report WV-86-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (304) 347-5130.

COOPERATION

The U.S. Geological Survey and agencies of the State of West Virginia have had cooperative agreements for the collection of water-resource records since 1930. Organizations that assisted in collecting the data in this report through cooperative agreement with the Survey are:

West Virginia Department of Energy, K. R. Faerber, Commissioner.

West Virginia Department of Natural Resources, R. R. Potesta, Director through
Division of Water Resources, D. W. Robinson, Chief.

West Virginia Geological and Economic Survey, R. B. Erwin, Director.

West Virginia State Department of Highways, W. S. Ritchie, Commissioner.

Marshall County Commission, H. L. Byard, President.

Morgantown Utility Board, T. E. Urquhart, General Manager.

Washington Public Service District, C. I. Parsons, Manager.

Assistance with funds or services was given by the U.S. Army Corps of Engineers, U.S. Soil Conservation Service, National Park Service, and Federal Power Commission.

Assistance was also furnished by the National Weather Service of the U.S. Department of Commerce.

The following organizations aided in collecting records: Appalachian Power Company and the Monongahela Power Company.

Organizations that provided data are acknowledged in station descriptions.

WATER RESOURCES DATA - WEST VIRGINIA, 1986

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow during the 1986 water year generally was above normal throughout the State. Figures 1 and 2 show monthly and annual mean discharges at four sites in different parts of the State. Precipitation information was obtained from "Monthly Reports of River and Flood Conditions," National Weather Service, Charleston, West Virginia.

Streamflow and precipitation in October were near normal throughout the State. Streamflow and precipitation in November were above normal throughout the State. A major flood occurred November 4-6 in the central and eastern parts of the State as the result of heavy rains associated with a low-pressure system created by the northward movement of Hurricane Juan. Monthly National Weather Service precipitation totals ranged from 6.0 to 16.7 inches at measuring sites. Rainfall amounts may have exceeded 12 to 14 inches November 1-6 over the headwaters of the Cheat River basin and South Branch of the Potomac River basin. Four gaging stations in the Cheat and Potomac basins were destroyed and others damaged as the result of this historic flood. The 100-year-flood recurrence interval was equalled or exceeded at 22 gaging stations in West Virginia. The maximum flood known prior to November 1985 was exceeded at 27 of 70 active gaging stations. Additional rains at the end of the month caused minor flooding in the Tygart, Little Kanawha, and Ohio basins November 27-30.

Streamflow in December and January was below normal statewide and above normal statewide in February. Precipitation was below normal statewide during December and January and above normal statewide during February. Minor flooding occurred in the West Fork and Little Kanawha basins near the end of February as a result of snowmelt runoff.

Streamflow and precipitation in March, April, and May were slightly below normal throughout the State. Minor flooding occurred in the Cheat and Tygart basins in mid-March when river stages reached about 1 foot above flood stage. No major flooding occurred this spring as the result of snowmelt runoff from the higher elevations.

Streamflow in June and July generally was above normal throughout the State because of heavy rains during the last week of June and the first week of July. Precipitation was above normal in June and July, except in the extreme southern part of the State. Isolated thunderstorms during these months resulted in scattered small-stream flooding across the State.

Streamflow in August was near normal throughout the State and slightly below normal in the southern part of the State. Precipitation generally was above normal in the southern half of the State and near normal in the northern half of the State. Streamflow and precipitation in September were below normal across the State.

Water-quality data were collected periodically at 5 NASQAN and 16 project sites during the year. The amount of data was insufficient to provide a summary statement.

Ground-water levels in the 1986 water year generally were above normal throughout the State during the first half of the year, and generally below normal during the second half of the year. Hydrographs for three observation wells are shown in figure 6. In October, the water levels were below average, except in the northeastern and southwestern areas of the State where the water levels were above average. From November through March, water levels were above average in most of the State. From April through September, water levels declined and were below average except in some north-central and southwestern areas, where they were above average. Water levels in the index well in Gilmer County, near the center of the State, were above average, except during April through June, when they were below average.

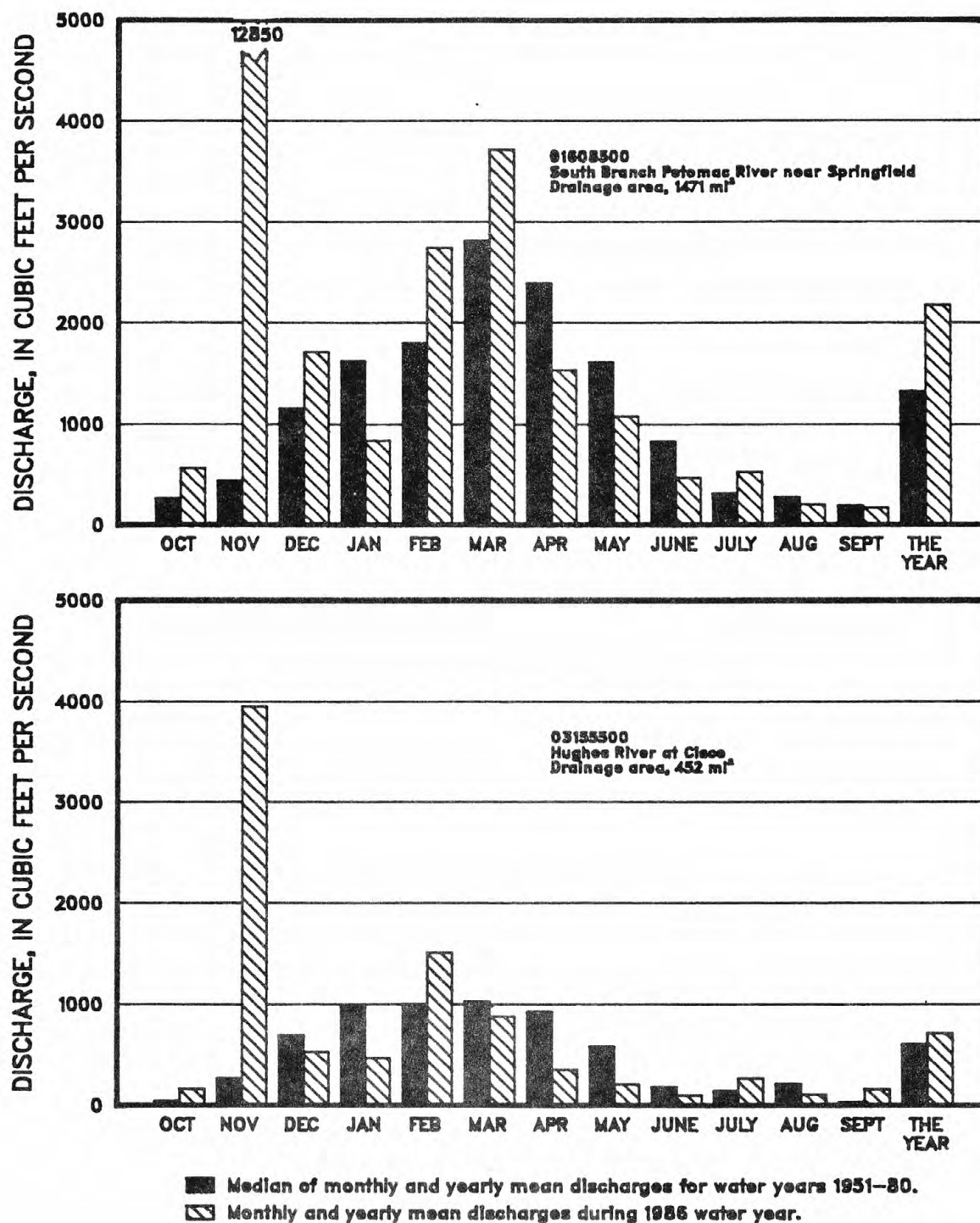


Figure 1.--Discharge at the South Branch Potomac River and the Hughes River index gaging stations during the 1986 water year compared to median discharge for the period 1951-80.

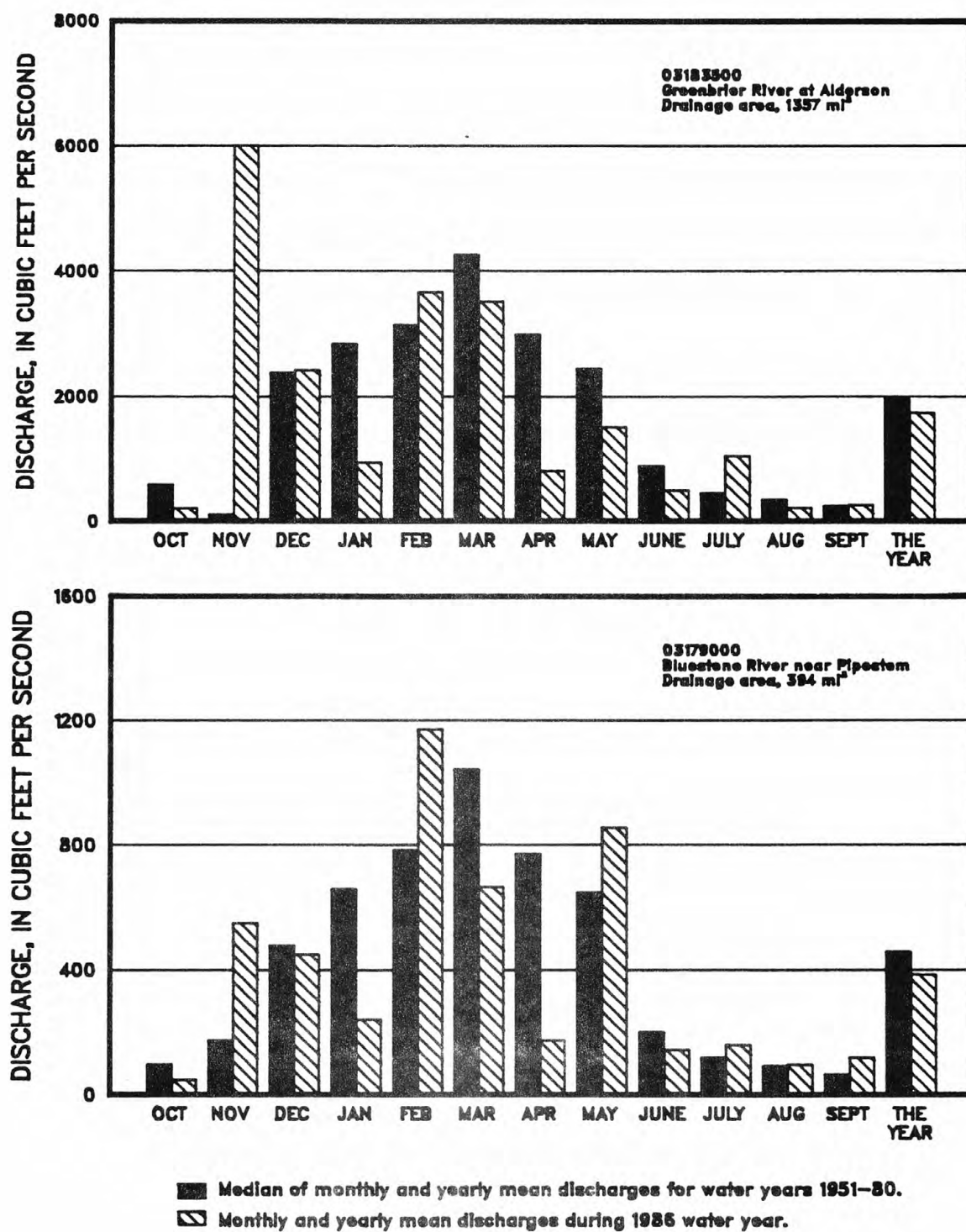


Figure 2.--Discharge at the Greenbrier River and the Bluestone River index gaging stations during the 1986 water year compared to median discharge for the period 1951-80.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Radiochemical Program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1986 water year that began October 1, 1985, and ended September 30, 1986. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figures 4 and 5. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in West Virginia, for surface-water stations where only miscellaneous measurements are made.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 03198000, which appears just to the left of the station name, includes the two-digit Part number "03" plus the six-digit downstream-order number "198000." The Part number designates the major river basin; for example, Part "03" is the Kanawha River basin.

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Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure 3 below.)

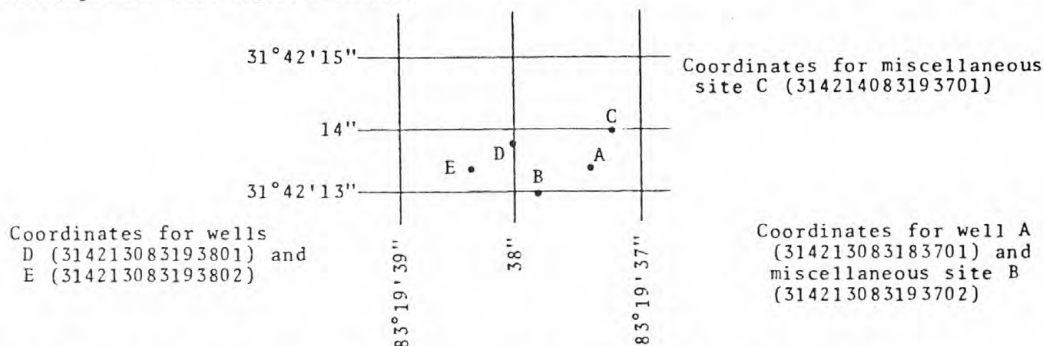


Figure 3. System for numbering wells and miscellaneous sites (latitude and longitude).

Well records furnished by the State of West Virginia also include the well number that is based on an indexing system used by the West Virginia State Water Control Board.

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record and crest-stage partial-record stations for which data are given in this report are shown in figure 4.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adopted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow-over-dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as the lapsed time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

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COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development. The median of yearly mean discharges also is given under this heading for stations having 10 or more water years of record, if the median differs from the average given by more than 10 percent.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table foot-note, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables is on file in the West Virginia District Office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records," as used in this report, and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 4.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" which appears at the end of the introductory text. Detailed information on collecting, treating, and shipping samples may be obtained from the West Virginia District Office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

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Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the West Virginia District Office whose address is given on the back of the title page of this report.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the West Virginia District Office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratory in Arvada, Colorado or Doraville, Georgia. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratories are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Records of Ground-Water Levels

Only water-level data from a national network of observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in West Virginia are shown in figure 5.

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification number is the local well number, an alphanumeric number, derived from the township-range location of the well.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

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LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; the distance and direction from a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. For wells equipped with recorders, only abbreviated tables are published; generally, only water level lows are listed for every fifth day and at the end of the month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that, for most sampling sites they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes, one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed on a following page. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

ACCESS TO WATSTORE DATA

The National Water Data Storage and Retrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from the offices whose addresses are given on the back of the title page.

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as Gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m³), and periphyton and benthic organisms in grams per square mile (g/m²).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

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Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic foot per second day (ft^3/d) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

Cubic feet per second per square mile [$(\text{ft}^3/\text{s})/\text{mi}^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a $0.45 \mu\text{m}$ membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO_3).

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram ($\mu\text{g/g}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter ($\mu\text{G/L}$, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Microsiemens per centimeter ($\mu\text{S/CM}$) at 25°C are the units of measure for specific conductance. The microsiemen is numerically the same as the micromho.

Milligrams per liter (MG/L , mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Nephelometric turbidity units (NTU) are the unit of measure of turbidity. It is based on use of a standard suspension of Formazin.

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel.....	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [$\text{mg C}/(\text{m}^2\text{-time})$] for periphyton and macrophytes and [$\text{mg C}/(\text{m}^3\text{-time})$] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

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Milligrams of oxygen per area or volume per unit time [$\text{mgO}_2/(\text{m}^2\text{-time})$] for periphyton and macrophytes and [$\text{mgO}_2/(\text{m}^3\text{-time})$] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow (7 Q₁₀) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emerged or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

Kingdom.....	Animal
Phylum.....	Arthropoda
Class.....	Insecta
Order.....	Ephemeroptera
Family.....	Ephemeridae
Genus.....	<u>Hexagenia</u>
Species.....	<u>Hexagenia limbata</u>

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

Turbidity is a measurement of the intensity of light scattered by a water sample. Suspended particulate matter in the sample causes scattering of light passing through the sample. Turbidity is measured by comparison of the light scattering intensity of a water sample to that of a standard reference suspension. The greater the intensity of the scattered light, the greater the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU).

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1986, is called the "1986 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 Pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

- 3-C1. *Fluvial sediment concepts* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*. by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*. by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells* by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments* by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*. by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*. edited by P. E. Greenson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*. by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*. by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels* by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. *Methods of measuring water levels in deep wells*. by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers* by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*. by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

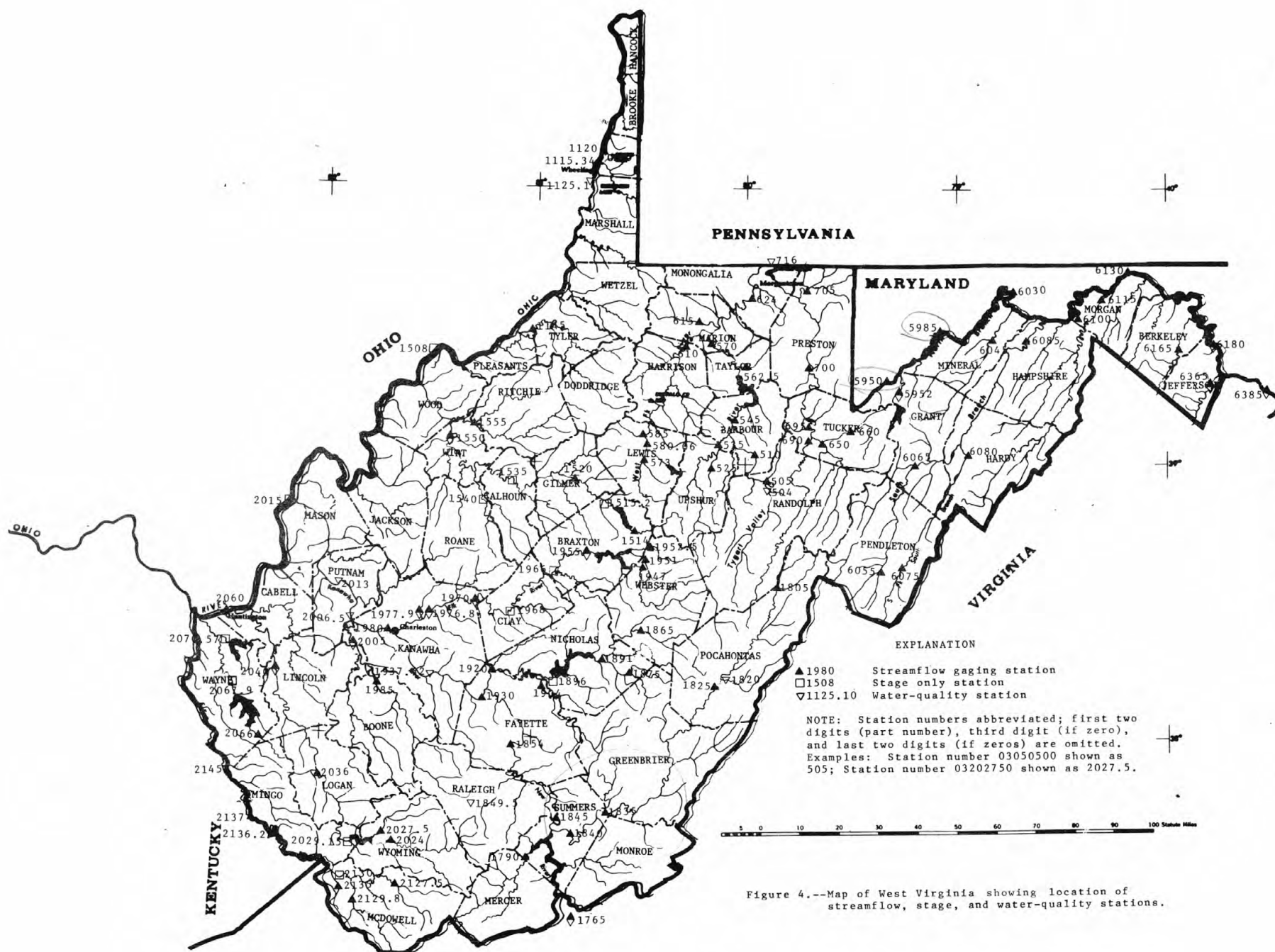


Figure 4.--Map of West Virginia showing location of streamflow, stage, and water-quality stations.

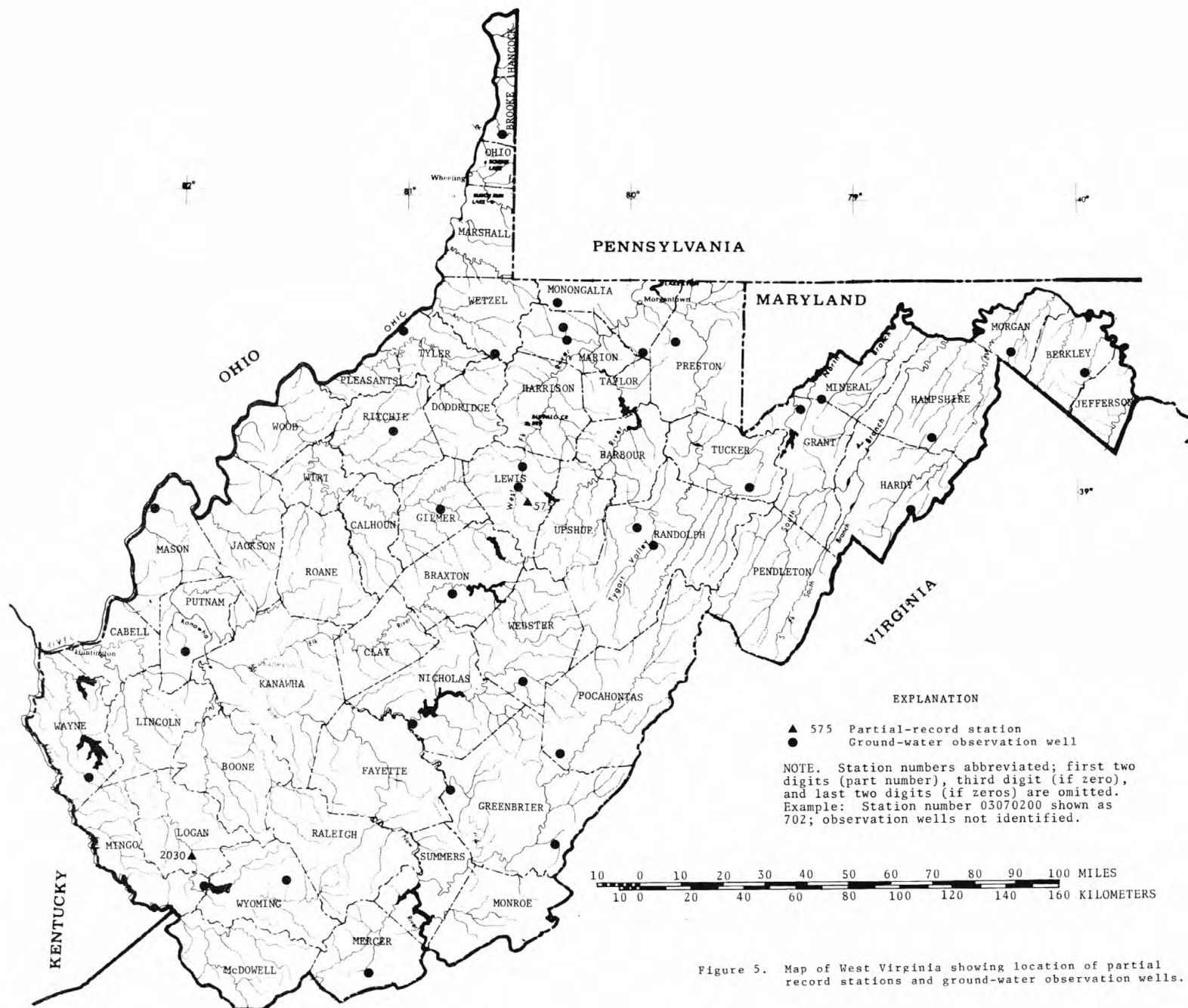


Figure 5. Map of West Virginia showing location of partial record stations and ground-water observation wells.

SURFACE-WATER RECORDS

REMARK CODES.--The following remark codes may appear with the water-quality data in this section:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated value
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

POTOMAC RIVER BASIN

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD

LOCATION.--Lat 39°18'07", long 79°18'26", Garrett County, Hydrologic Unit 02070002, on left bank 0.3 mi southeast of Steyer, 0.4 mi downstream from Steyer Run, 2.0 mi northeast of Gorman, and at mile 81.8.

DRAINAGE AREA.--73.0 mi².

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 26 to Jan. 15 and Feb. 10 to Mar. 5. Records fair except those for period with ice effect, Dec. 26 to Jan. 15, and for period of missing record, Feb. 10 to Mar. 5, which are poor. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--30 years, 174 ft³/s, 32.37 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s, Nov. 5, 1985, gage height, 13.14 ft, from rating curve extended above 3,000 ft³/s on basis of slope-area measurement at gage height 10.30 ft; minimum discharge 2.9 ft³/s, Sept. 10, 1965, gage height, 2.03 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1954, reached a stage of 13.0 ft, from floodmarks; discharge, 11,300 ft³/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 5	0030	*11,500	*13.14	Mar. 14	2330	2,700	6.74
Nov. 28	2000	2,260	6.28				

Minimum discharge, 5.4 ft³/s, Oct. 1, gage height, 2.10 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	78	365	90	156	140	75	132	56	56	36	17
2	18	210	305	88	319	130	75	125	50	208	33	18
3	21	286	235	86	847	120	70	106	55	225	27	30
4	26	2810	202	84	1270	110	68	97	58	105	22	36
5	22	4410	183	82	815	110	69	90	53	70	22	39
6	21	903	184	82	480	103	99	87	51	52	31	40
7	15	492	165	80	350	104	213	91	47	44	42	32
8	14	346	148	80	270	96	148	91	43	46	62	27
9	15	259	154	80	225	144	146	76	33	314	60	36
10	14	214	173	78	210	558	169	72	29	323	35	38
11	17	200	190	78	180	1300	179	62	38	188	38	36
12	17	183	429	78	160	486	277	56	53	210	40	44
13	9.8	191	846	76	140	403	326	63	43	137	34	44
14	12	229	597	76	130	941	271	119	37	171	34	30
15	20	183	351	88	110	1420	270	89	26	116	30	25
16	38	206	272	100	120	548	461	77	34	93	26	38
17	20	267	227	122	580	358	360	65	53	117	22	60
18	17	205	206	264	1000	275	398	100	37	120	22	37
19	13	179	257	527	1400	232	363	166	32	86	23	48
20	136	158	327	530	1100	192	283	342	65	111	23	67
21	845	143	263	301	800	159	261	252	53	136	24	59
22	438	457	280	301	580	140	254	189	30	89	25	52
23	229	355	175	304	410	129	230	154	24	92	24	75
24	158	251	124	239	280	121	207	128	43	76	40	99
25	141	235	112	211	230	105	189	105	39	64	22	110
26	107	262	100	201	200	97	172	89	31	60	21	106
27	91	530	98	172	180	106	149	87	30	54	17	185
28	81	1670	96	164	160	97	134	96	87	43	33	131
29	72	1180	94	257	---	89	186	84	99	40	32	96
30	63	537	93	217	---	83	148	78	56	42	25	92
31	62	---	90	209	---	76	---	68	---	39	18	---
TOTAL	2761.7	17629	7341	5345	12702	8972	6250	3436	1385	3527	943	1747
MEAN	89.1	588	237	172	454	289	208	111	46.2	114	30.4	58.2
MAX	845	4410	846	530	1400	1420	461	342	99	323	62	185
MIN	8.9	78	90	76	110	76	68	56	24	39	17	17
CFSM	1.22	8.06	3.25	2.36	6.22	3.96	2.85	1.52	.63	1.56	.42	.80
IN.	1.41	8.98	3.74	2.72	6.47	4.57	3.18	1.75	.71	1.80	.48	.89

CAL YR 1985 TOTAL 76926.7 MEAN 211 MAX 4410 MIN 8.9 CFSM 2.89 IN 39.20
WTR YR 1986 TOTAL 72038.7 MEAN 197 MAX 4410 MIN 8.9 CFSM 2.70 IN 36.71

POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, WV

LOCATION.--Lat 39°16'10", long 79°15'45", Grant County, Hydrologic Unit 02070002, on left bank 100 ft downstream from highway bridge on U.S. Highway 50, 1.0 mi west of Mount Storm, and at mile 6.4.

DRAINAGE AREA.--48.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,554.54 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 4-7. Records good except for period of no gage-height record, Nov. 4-7, which are fair. Flow regulated by Stony River Reservoir, 14.0 mi upstream from station, capacity, 1,948,000,000 gal, of which 1,681,000,000 gal is controlled above minimum pool. Regulation since 1963 by Virginia Electric and Power Company dam (Mount Storm Lake) 4.0 mi upstream from station.

AVERAGE DISCHARGE.--25 years, 101 ft³/s, 28.11 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft³/s, Nov. 5, 1985, gage height, 16.41 ft, from floodmarks, from rating curve extended above 7,500 ft³/s, on basis of slope-area measurement of peak flow; minimum, 1.8 ft³/s, July 13, 1968, Sept. 25, 1985; minimum gage height, 1.73 ft, Sept. 25, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,000 ft³/s, Nov. 5, gage height, 16.41 ft; minimum, 2.7 ft³/s, Oct. 7, gage height, 1.80 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	113	294	38	41	47	35	45	23	23	8.3	5.4
2	5.7	193	208	34	82	45	33	43	24	47	6.1	5.9
3	5.0	245	72	35	96	40	32	38	25	37	6.4	8.3
4	4.6	716	64	34	422	37	32	36	23	14	6.1	7.8
5	3.9	9880	62	35	755	35	33	34	23	9.6	8.7	7.2
6	3.1	3410	61	44	303	35	44	33	28	8.0	7.2	4.9
7	2.8	1290	56	35	352	35	65	41	26	7.5	6.1	3.7
8	3.3	810	52	36	272	35	47	46	22	9.1	6.4	3.4
9	4.2	655	53	37	76	49	50	36	21	76	6.4	3.6
10	4.0	359	58	33	64	167	56	31	22	44	5.9	3.2
11	5.4	62	59	31	201	700	63	28	24	22	6.1	3.1
12	8.7	56	87	31	121	169	89	29	25	22	6.4	3.3
13	8.4	56	179	31	57	612	113	37	23	15	8.7	3.3
14	9.4	59	133	34	61	810	125	56	20	21	8.3	3.2
15	20	49	114	36	376	1070	150	47	21	14	8.3	3.2
16	19	68	220	40	203	210	532	44	23	11	7.5	3.2
17	12	93	199	36	177	195	177	38	25	10	7.0	3.1
18	13	62	735	53	279	510	203	37	22	11	7.8	4.2
19	16	52	496	105	1130	429	218	38	21	11	9.1	5.9
20	35	46	58	116	588	69	242	148	29	13	11	4.9
21	188	43	47	73	215	58	242	110	22	18	14	3.6
22	137	125	51	87	306	53	183	100	18	12	10	3.3
23	89	97	44	84	306	50	129	86	19	10	7.0	4.7
24	105	69	43	65	191	46	96	57	28	10	8.7	6.4
25	133	68	42	57	70	44	58	34	22	11	6.7	7.2
26	130	77	46	55	59	43	52	34	20	9.6	6.7	4.7
27	131	119	47	51	58	44	49	52	20	7.0	5.9	7.0
28	130	496	43	57	49	46	47	103	26	7.5	6.7	5.9
29	130	370	42	72	---	38	56	89	23	6.7	5.9	4.5
30	122	324	40	57	---	36	47	41	20	6.4	5.4	4.0
31	110	---	42	45	---	36	---	26	---	8.3	5.2	---
TOTAL	1593.3	20062	3747	1577	6910	5793	3298	1617	688	531.7	230.0	142.1
MEAN	51.4	669	121	50.9	247	187	110	52.2	22.9	17.2	7.42	4.74
MAX	188	9880	735	116	1130	1070	532	148	29	76	14	8.3
MIN	2.8	43	40	31	41	35	32	26	18	6.4	5.2	3.1
(†)	1197	1122	994	1122	1042	1197	1175	1164	1241	1283	1208	1224
CAL YR 1985	TOTAL	52082.1	MEAN	143	MAX	9880	MIN	2.0				
WTR YR 1986	TOTAL	46189.1	MEAN	127	MAX	9880	MIN	2.8				

(†) Month-end contents, in millions of gallons, in Stony River Reservoir, furnished by West Virginia Pulp and Paper Company. These values do not include changes in storage in Mount Storm Lake.

POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1961 to March 1974, September 1974 to current year.

INSTRUMENTATION.--Temperature recorder (continuous ethyl alcohol - actuated thermograph) since December 1961.

REMARKS.--Temperature recorder stopped Nov. 5 to Jan. 17, Jan. 20, 21.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 27.5°C, Aug. 14, 1984; minimum, 0.0°C, on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 24.0°C, July 7, 8; minimum, 0.5°C, Jan. 18.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.0	11.5	14.5	14.0			---	---	2.0	1.5	4.0	3.0
2	13.0	12.0	14.5	14.0			---	---	2.0	1.5	4.0	3.0
3	13.5	11.5	14.0	14.0			---	---	3.0	2.0	3.5	3.0
4	15.5	12.5	14.0	11.0			---	---	6.0	2.5	4.5	4.0
5	15.0	11.5	---	---			---	---	6.5	5.0	5.0	4.0
6	13.0	10.0	---	---			---	---	7.0	5.5	5.0	4.0
7	13.0	7.5	---	---			---	---	7.0	7.0	5.5	4.0
8	12.0	8.0	---	---			---	---	7.0	6.5	6.0	3.5
9	12.0	8.5	---	---			---	---	6.5	4.0	4.5	4.0
10	13.0	10.5	---	---			---	---	4.0	3.0	6.5	4.5
11	13.5	12.5	---	---			---	---	6.5	2.5	10.5	6.5
12	14.0	13.0	---	---			---	---	6.5	4.0	11.0	7.5
13	14.0	13.0	---	---			---	---	4.0	1.5	11.0	7.5
14	14.0	13.0	---	---			---	---	3.0	1.5	11.5	10.5
15	14.0	13.0	---	---			---	---	7.0	1.5	12.5	11.0
16	13.5	13.0	---	---			---	---	7.0	3.5	12.5	9.5
17	13.0	11.0	---	---			---	---	3.5	2.5	12.0	10.0
18	11.5	11.0	---	---			1.0	.5	3.0	2.5	13.0	11.5
19	12.5	11.0	---	---			1.5	1.0	7.0	3.0	12.0	10.5
20	13.0	11.5	---	---			---	---	7.0	6.0	12.0	8.5
21	11.5	10.5	---	---			---	---	7.0	5.5	8.5	6.0
22	11.0	10.5	---	---			3.0	3.0	7.5	6.5	7.0	5.5
23	12.5	10.5	---	---			3.0	2.0	7.5	7.0	9.0	6.5
24	15.0	12.5	---	---			2.5	2.0	7.5	5.5	10.0	8.0
25	15.5	15.0	---	---			2.5	2.0	5.5	3.5	11.5	8.5
26	15.0	13.5	---	---			3.0	2.5	4.0	3.0	12.5	10.0
27	16.0	15.0	---	---			3.0	2.5	3.5	3.0	12.0	10.5
28	16.0	15.0	---	---			3.0	2.0	4.0	2.5	11.0	9.0
29	15.0	14.0	---	---			2.5	2.0	---	---	12.5	9.5
30	14.5	14.0	---	---			2.0	2.0	---	---	12.5	9.5
31	14.5	14.0	---	---			2.0	1.5	---	---	14.0	9.5
MONTH	16.0	7.5	14.5	11.0			3.0	.5	7.5	1.5	14.0	3.0

POTOMAC RIVER BASIN

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD

LOCATION.--Lat 39°28'45", long 79°03'55", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank 0.2 mi downstream from Savage River, 0.5 mi northwest of Luke, and at mile 53.3.

DRAINAGE AREA.--404 mi².

PERIOD OF RECORD.--June 1899 to July 1906 (published as at Piedmont, W. Va.), October 1949 to current year.

REVISED RECORDS.--WSP 192: 1899-1904. WSP 1432: 1905-6, drainage area at former site.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 944.22 ft above National Geodetic Vertical Datum of 1929. June 27, 1899, to July 15, 1906, nonrecording gage at bridge 1.1 mi downstream at datum about 35 ft lower.

REMARKS.--Estimated daily discharges: Jan. 1 to Mar. 31. Records good except those for periods of partially plugged intakes, Jan. 1 to Mar. 31, which are poor. Flow regulated prior to July 1981 by Stony River Reservoir, 45 mi upstream from station (see station 01597500), since December 1950 by Savage River Reservoir, 5 mi upstream from station (see station 01597500), and since July 1981 by Jennings Randolph Lake, 9 mi upstream from station (see station 01595800). Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906. U.S. Army Corps of Engineers satellite telemeter at station. Upper Potomac River Commission gage height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--43 years (water years 1900-05, 1950-86), 719 ft³/s, 24.17 in/yr, adjusted for storage since October 1949.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,400 ft³/s, Oct. 15, 1954, gage height, 17.15 ft, from rating curve extended above 25,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily discharge, 6 ft³/s, Sept. 4, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,940 ft³/s, Nov. 7, gage height, 8.85 ft; minimum discharge, 143 ft³/s, July 21, gage height, 1.56 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	473	608	3530	998	287	625	389	459	310	229	244	550
2	394	620	3470	988	310	584	332	420	276	250	564	309
3	326	682	3940	880	333	557	284	390	254	240	725	307
4	323	1960	3660	633	518	519	282	390	242	232	289	305
5	322	5110	2790	606	1940	473	286	364	240	740	287	304
6	321	4250	2530	597	1930	421	294	322	240	922	293	302
7	320	7820	2200	592	1960	356	300	322	242	270	291	299
8	319	6950	2140	590	1950	367	293	278	241	268	288	299
9	318	5660	2190	595	1940	449	295	257	238	257	286	299
10	318	5810	2090	597	1590	1180	296	256	237	234	286	299
11	318	5890	1820	577	966	1230	301	254	238	240	288	298
12	318	5050	1810	566	671	1750	303	254	237	243	285	298
13	318	3180	1870	532	608	1830	304	259	234	240	281	296
14	318	2230	1880	429	545	2400	302	271	234	239	293	296
15	318	1440	1850	372	533	5760	314	262	233	235	295	296
16	317	1250	1830	351	519	5770	422	259	233	226	293	295
17	315	1290	1810	314	529	2960	426	256	241	241	294	296
18	315	1340	1780	294	870	1680	429	254	232	225	298	371
19	315	1520	1710	291	1290	1730	639	257	230	226	309	435
20	322	1320	1580	316	4020	1340	797	387	236	231	312	432
21	467	1500	1710	295	3840	730	592	578	232	233	315	431
22	711	1600	1680	294	3570	589	668	655	230	254	309	429
23	659	1610	1530	318	2670	609	664	529	230	254	309	430
24	651	1580	1320	314	1890	645	564	422	229	250	307	444
25	638	1600	1280	320	1350	521	530	418	228	257	306	439
26	630	1640	1200	321	1010	430	527	416	228	250	304	435
27	625	1700	1080	317	833	421	496	416	230	247	301	739
28	618	2150	1040	354	750	413	471	415	233	245	298	958
29	614	3220	1060	413	---	413	467	412	230	247	514	594
30	608	3600	1030	320	---	414	462	368	229	245	774	303
31	607	---	1010	283	---	415	---	314	---	244	770	---
TOTAL	13436	84180	60420	14667	39222	37581	12729	11114	7167	8714	11008	11788
MEAN	433	2806	1949	473	1401	1212	424	359	239	281	355	393
MAX	711	7820	3940	998	4020	5770	797	655	310	922	774	958
MIN	315	608	1010	283	287	356	282	254	228	225	244	295

CAL YR 1985 TOTAL 363738 MEAN 997 MAX 7820 MIN 261 CFSM 2.47 IN 33.49
WTR YR 1986 TOTAL 312026 MEAN 855 MAX 7820 MIN 225 CFSM 2.12 IN 28.73

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD

LOCATION.--Lat 39°37'16", long 78°46'24", Allegany County, Hydrologic Unit 02070002, on left bank at downstream side of Wiley Ford Bridge, 2.0 mi south of Cumberland, 2.1 mi downstream from Wills Creek, and at mile 19.6.

DRAINAGE AREA.--875 mi².

PERIOD OF RECORD.--May 1929 to current year. Gage-height records collected at various sites about 2.0 mi upstream from September 1901 to December 1932 and thereafter at present site, are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 726: Drainage area. WSP 781: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 585.22 ft above National Geodetic Vertical Datum of 1929. Prior to June 18, 1929, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Jan. 28-31. Records good except those for period with ice effect, Jan. 28-31, which are fair. Prior to July 1981 some regulation at low flow by Stony River Reservoir, 79 mi upstream from station (see station 01595200). Low-flow regulation since December 1950 by Savage River Reservoir, 39 mi upstream from station (see station 01597500). Flow regulated by Jennings Randolph Lake, 43 mi upstream from station (see station 01595800) since July 1981. Prior to July 1957, small amount of inflow from industrial wastes and sewage from city of Cumberland from water diverted from Evitts Creek, mouth of which is downstream from station. Diversion to Chesapeake and Ohio Canal prior to 1935. National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at gage. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--57 years, 1,275 ft³/s, 19.79 in/yr, adjusted for storage since October 1981.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,200 ft³/s, Mar. 17, 1936, gage height, 29.1 ft, from rating curve extended above 33,000 ft³/s on basis of slope-area measurement of peak flow; minimum discharge (river only), 12 ft³/s, Sept. 22, 1932, gage height, 2.38 ft; minimum daily discharge (including flow in canal), 38 ft³/s, Sept. 24, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.2 ft June 1, 1889, discharge, about 89,000 ft³/s. Flood of Mar. 29, 1924, reached a stage of 28.4 ft, discharge, about 82,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,500 ft³/s, Nov. 5, gage height, 18.85 ft; minimum discharge, 292 ft³/s, Aug. 1, 2, gage height, 2.50 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	584	845	5820	1220	697	1490	843	891	549	320	316	875
2	608	892	5800	1190	699	1370	768	874	520	414	315	517
3	435	1240	5420	1180	875	1330	681	759	445	441	1020	373
4	409	5700	5550	956	1870	1270	635	725	427	361	572	369
5	396	19700	4010	866	5760	1170	633	708	416	359	361	375
6	388	8880	3780	810	5930	1120	744	642	442	1360	363	365
7	384	9540	3220	804	4930	992	885	633	565	621	432	360
8	385	9100	3070	743	4330	861	807	604	1040	358	386	354
9	383	6700	2990	754	3970	952	771	524	718	490	370	351
10	382	6450	3020	780	3570	1290	788	509	570	458	359	354
11	381	6540	2520	784	2240	2580	811	489	511	376	364	353
12	380	6200	2570	766	1590	3520	818	475	526	450	354	349
13	381	3910	2960	769	1330	3530	790	481	471	413	348	345
14	408	3070	3310	586	1170	4980	772	562	436	380	345	344
15	400	2440	2970	519	1220	13700	785	566	409	355	363	344
16	393	3210	2870	537	1130	11000	1180	516	395	341	359	341
17	386	5200	2720	456	1270	5860	1590	497	426	386	363	336
18	387	3400	2580	448	3180	3470	2080	489	405	369	370	338
19	386	3020	2320	542	7700	3310	1880	508	367	397	379	510
20	401	2440	2070	992	13400	2910	2090	954	372	441	392	528
21	763	2330	2320	958	10100	1620	1710	1320	367	432	408	525
22	1470	3710	2180	878	8430	1340	1520	1360	350	391	406	520
23	1500	4430	2170	943	6160	1270	1520	1270	343	407	398	517
24	1380	3620	1730	905	4500	1420	1290	975	344	384	395	553
25	1330	3110	1670	923	3270	1190	1170	895	355	424	375	590
26	1080	3240	1480	928	2440	1050	1130	841	332	393	372	587
27	980	7010	1340	901	2100	984	1090	801	332	374	375	619
28	923	9360	1330	600	1880	970	991	825	360	352	364	1160
29	883	8370	1260	630	---	931	968	763	353	343	356	1070
30	855	6850	1240	670	---	898	919	720	329	332	820	418
31	836	---	1210	670	---	870	---	599	---	326	891	---
TOTAL	20257	160507	87500	24708	105741	79248	32659	22775	13475	13248	13291	14640
MEAN	653	5350	2823	797	3776	2556	1089	735	449	427	429	488
MAX	1500	19700	5820	1220	13400	13700	2090	1360	1040	1360	1020	1160
MIN	380	845	1210	448	697	861	633	475	329	320	315	336
CAL YR 1985	TOTAL	625894	MEAN	1715	MAX	19700	MIN	361	CFSM	1.96	IN	26.61
WTR YR 1986	TOTAL	588049	MEAN	1611	MAX	19700	MIN	315	CFSM	1.84	IN	25.00

POTOMAC RIVER BASIN

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV

LOCATION.--Lat 39°26'35", long 78°49'20", Mineral County, Hydrologic Unit 02070002, on right bank 100 ft downstream from Hazel Run, 1.0 mi downstream from Cabin Run, 4.0 mi northeast of Headsville, 8.0 mi east of Keyser, and at mile 12.5.

DRAINAGE AREA.--219 mi².

PERIOD OF RECORD.--August 1938 to current year.

REVISED RECORDS.--WSP 951: 1939-40.

GAGE.--Water-stage recorder. Datum of gage is 624.90 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 11, 1946, nonrecording gage on bridge 1.0 mi upstream at datum 6.14 ft higher. Oct. 11-23, 1946, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Jan. 4-19, 22-27, 30, 31, Feb. 1, 2, 13-15, Aug. 1-5, 8, 9, 11-17, 21-31, and Sept. 1-10. Records good except those for periods of doubtful gage-height record, Aug. 1-5, 8, 9, 11-17, 21-31, and Sept. 1-10, and periods with ice effect, Jan. 4-19, 22-27, 30, 31, and Feb. 1, 2, 13-15, which are poor. The flow from 115 mi² upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,887 acre-ft.

AVERAGE DISCHARGE.--48 years, 169 ft³/s, 10.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s, Aug. 18, 1955, gage height, 12.20 ft, from rating curve extended above 4,900 ft³/s, on basis of contracted-opening measurement at gage height 11.53 ft; minimum, 1.2 ft³/s, Sept. 10-12, 1965; minimum gage height, 2.02 ft, Oct. 2, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,220 ft³/s, Nov. 5, gage height, 11.17 ft; minimum discharge, 5.6 ft³/s, Oct. 1, gage height, 2.62 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	21	779	68	65	454	105	86	70	21	12	10
2	6.5	23	709	66	55	408	93	78	58	26	12	11
3	7.0	83	604	63	70	377	84	70	50	30	11	9.0
4	7.3	1570	534	58	191	338	80	66	44	26	11	8.0
5	7.9	6090	471	53	454	307	80	63	41	23	11	7.6
6	7.3	2960	443	48	429	286	93	61	43	21	17	7.4
7	7.0	1730	408	43	394	272	123	63	65	19	21	7.2
8	7.0	1200	370	39	342	230	137	61	51	18	25	6.9
9	6.8	993	328	36	324	218	132	59	42	18	23	6.6
10	6.5	867	279	33	349	307	132	59	35	21	21	6.4
11	6.5	548	240	30	366	440	129	56	31	24	18	6.2
12	6.5	443	218	27	324	436	129	54	29	32	16	6.5
13	11	387	443	26	280	468	123	54	28	27	14	6.5
14	11	363	653	25	240	1370	115	70	26	24	13	6.5
15	10	307	506	25	215	3770	115	72	24	23	12	6.5
16	10	394	440	24	197	1670	244	66	23	21	12	6.5
17	9.4	590	373	24	230	1090	373	61	23	21	12	6.2
18	7.0	405	314	24	727	811	461	61	22	25	24	6.5
19	6.8	314	272	37	1430	713	356	72	21	23	30	6.8
20	7.0	247	275	84	1640	625	314	436	21	23	28	7.0
21	107	200	185	93	1380	534	286	562	21	22	26	7.0
22	344	629	194	105	1050	471	247	440	19	21	23	6.5
23	479	881	143	110	860	419	237	338	19	26	21	6.5
24	338	618	137	120	776	366	176	272	22	19	21	6.0
25	254	513	126	135	692	310	146	209	25	20	19	6.5
26	163	468	110	130	625	265	129	164	26	19	17	7.0
27	110	475	98	125	590	224	112	137	21	20	15	7.3
28	72	1280	86	118	517	200	102	115	21	17	13	8.2
29	48	1430	93	100	---	176	107	95	21	15	14	8.7
30	35	1000	90	90	---	143	100	84	21	15	12	8.7
31	26	---	80	75	---	118	---	78	---	13	11	---
TOTAL	2130.3	27029	10001	2034	14812	17816	5060	4162	963	673	535	217.7
MEAN	68.7	901	323	65.6	529	575	169	134	32.1	21.7	17.3	7.26
MAX	479	6090	779	135	1640	3770	461	562	70	32	30	11
MIN	5.8	21	80	24	55	118	80	54	19	13	11	6.0
CFSM	.31	4.11	1.48	.30	2.42	2.63	.77	.61	.15	.10	.08	.03
IN.	.36	4.59	1.70	.35	2.52	3.03	.86	.71	.16	.11	.09	.04
CAL YR 1985	TOTAL	75374.4	MEAN	207	MAX	6090	MIN	5.8	CFSM	.95	IN	12.80
WTR YR 1986	TOTAL	85433.0	MEAN	234	MAX	6090	MIN	5.8	CFSM	1.07	IN	14.51

POTOMAC RIVER BASIN

01605500 SOUTH BRANCH POTOMAC RIVER AT FRANKLIN, WV

LOCATION.--Lat 38°38'14", long 79°20'14", Pendleton County, Hydrologic Unit 02070001, on left bank 0.5 mi southwest of Franklin, 2 mi upstream from Friends Run, 2.5 mi downstream from Thorn Creek, and at mile 109.5.

DRAINAGE AREA.--182 mi².

PERIOD OF RECORD.--April 1940 to September 1969, October 1976 to current year.

GAGE.--Water-stage recorder and improved natural control. Datum of gage is 1,692.5 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Estimated daily discharges: Nov. 4-8, Dec. 14-19, 21-25, Dec. 28 to Jan. 18, and Jan. 21 to Feb. 27. Records good except for periods of no gage-height record, Nov. 4-8, Dec. 14-19, and Jan. 21 to Feb. 27, which are fair, and periods with ice effect, Dec. 21-25 and Dec. 28 to Jan. 18, which are poor.

AVERAGE DISCHARGE.--39 years, 172 ft³/s, 12.83 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,000 ft³/s, Nov. 4, 1985, gage height, 22.58 ft, from floodmarks, from rating curve extended above 15,000 ft³/s, on basis of slope-area measurement of peak flow; minimum, 13 ft³/s, Jan. 17, 1966; minimum gage height, 1.31 ft, Sept. 25-29, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1936 reached a stage of about 13 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 4	unknown	*44,000	a*22.58	Mar. 15	unknown	6,050	7.08

a From floodmarks.

Minimum discharge, 28 ft³/s, Oct. 1, 10, gage height, 1.54 ft.

z DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	59	416	72	80	181	123	126	82	150	39	37
2	34	230	404	70	84	175	119	118	77	169	38	83
3	41	661	328	68	90	172	111	108	71	160	37	77
4	38	25000	283	66	110	166	107	102	67	118	36	62
5	34	17000	260	64	200	160	105	97	66	90	35	57
6	31	11500	245	62	290	160	123	93	81	78	36	51
7	30	4200	214	60	270	155	133	94	193	70	44	45
8	30	1700	194	58	245	128	116	88	201	64	41	44
9	29	548	185	55	230	136	111	82	124	61	40	40
10	29	400	169	53	225	181	111	81	97	64	37	38
11	29	332	161	52	215	310	107	77	91	58	37	38
12	30	278	185	51	205	292	103	73	118	55	37	37
13	30	237	264	49	190	278	97	76	93	51	36	36
14	30	218	340	48	170	919	97	81	81	48	36	34
15	32	194	310	47	155	2800	99	75	72	47	36	34
16	31	177	260	47	150	1140	123	71	69	46	38	35
17	30	179	220	51	145	716	121	69	63	44	44	33
18	29	159	180	58	350	527	119	68	58	43	59	33
19	29	145	135	82	700	444	111	75	56	41	47	34
20	49	134	152	186	640	355	111	315	62	40	42	35
21	164	129	130	160	550	296	121	333	62	39	48	37
22	128	300	120	145	380	245	119	243	54	50	62	34
23	112	406	115	135	320	225	107	198	52	92	49	33
24	82	325	105	125	295	200	101	167	72	52	48	33
25	73	271	96	115	270	181	96	145	69	47	41	33
26	61	239	86	110	240	169	95	130	55	47	38	32
27	53	242	84	105	225	163	89	130	51	63	37	33
28	49	288	82	98	204	155	87	127	63	51	41	36
29	46	533	80	90	---	144	146	106	79	46	38	34
30	44	475	78	83	---	136	135	96	67	44	36	33
31	43	---	75	77	---	128	---	89	---	40	35	---
TOTAL	1498	66559	5956	2542	7228	11437	3343	3733	2446	2068	1268	1221
MEAN	48.3	2219	192	82.0	258	369	111	120	81.5	66.7	40.9	40.7
MAX	164	25000	416	186	700	2800	146	333	201	169	62	83
MIN	28	59	75	47	80	128	87	68	51	39	35	32
CFSM	.27	12.2	1.06	.45	1.42	2.03	.61	.66	.45	.37	.23	.22
IN.	.31	13.60	1.22	.52	1.48	2.34	.68	.76	.50	.42	.26	.25

CAL YR 1985	TOTAL	118049	MEAN 323	MAX 25000	MIN 28	CFSM 1.78	IN 24.13
WTR YR 1986	TOTAL	109299	MEAN 299	MAX 25000	MIN 28	CFSM 1.64	IN 22.34

POTOMAC RIVER BASIN

01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV

LOCATION (REVISED).--Lat $38^{\circ}59'28''$, long $79^{\circ}10'34''$, Grant County, Hydrologic Unit 02070001, on right bank 1.1 mi downstream from North Fork South Branch Potomac River, 2.6 mi west of Petersburg, and at mile 72.7.

DRAINAGE AREA.--642 mi².

PERIOD OF RECORD.--June 1928 to current year.

REVISED RECORDS.--WSP 951: 1939-41. WSP 1141: 1932, 1933(M), 1936-38.

GAGE.--Water-stage recorder. Datum of gage is 968.34 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 4, 1928, nonrecording gage at site 700 ft downstream and at different datum. June 1928 to Nov. 5, 1985, water-stage recorder at site 700 ft downstream at datum 6.34 ft lower.

REMARKS.--Estimated daily discharges: Oct. 2 to May 20. Records good except for period of no gage-height record, Oct. 2 to May 20, which is poor. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--58 years, 720 ft³/s, 15.23 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 130,000 ft³/s, Nov. 5, 1985, gage height, 21.80 ft, from floodmarks, from rating curve extended above 63,000 ft³/s, on basis of slope-area measurement of peak flow; minimum, 42 ft³/s, Sept. 28, 29, 1959, Sept. 11, 12, 1966; minimum gage height, 0.94 ft, Sept. 28, 29, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1877 reached a stage of 21.2 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum(*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	unknown	*130,000	*21.80	Mar. 15	unknown	unknown	unknown

Minimum daily discharge, 77 ft³/s, Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	190	1500	260	280	650	440	450	314	723	134	112
2	85	960	1350	250	300	620	420	425	292	1140	124	111
3	140	1800	1200	245	330	600	405	400	269	1290	120	182
4	130	8000	1000	235	450	580	390	370	248	730	116	201
5	122	77000	900	230	650	560	380	345	250	735	110	172
6	110	35000	830	225	1000	560	425	330	255	735	108	159
7	105	15000	780	220	950	540	470	330	288	527	108	145
8	102	6500	710	215	880	450	420	315	527	307	121	131
9	98	2500	640	210	840	500	390	295	429	275	132	123
10	93	1600	590	200	800	600	390	280	339	246	127	116
11	89	1200	560	190	760	1100	380	270	293	239	121	110
12	86	1000	610	185	720	1000	370	260	287	223	113	107
13	87	850	800	180	680	950	360	270	302	217	110	105
14	89	780	1350	175	630	2500	350	285	263	201	109	102
15	93	710	1150	170	590	9800	350	270	244	175	106	101
16	96	640	950	165	530	4500	400	255	241	154	110	98
17	91	620	820	190	600	2700	460	250	217	154	117	95
18	88	580	700	225	1100	2000	430	245	200	149	137	95
19	95	530	550	280	2800	1600	400	270	186	138	147	95
20	160	490	490	650	2500	1350	385	900	184	113	135	97
21	580	460	470	630	2100	1100	440	1260	207	113	136	101
22	460	850	440	590	1600	900	420	991	206	113	152	102
23	390	1400	410	540	1300	800	400	811	180	135	170	102
24	320	1200	380	500	1100	720	370	678	180	218	173	98
25	260	980	350	450	1000	660	340	561	240	186	191	95
26	220	850	330	410	900	610	340	495	224	157	166	95
27	200	870	310	380	840	570	330	452	183	191	140	95
28	180	1000	290	355	750	550	310	465	182	203	131	110
29	165	1800	280	330	---	520	510	411	382	173	131	137
30	155	1700	270	310	---	490	480	368	387	153	130	127
31	150	---	265	295	---	460	---	337	---	145	123	---
TOTAL	5116	167060	21275	9490	26980	40540	11955	13644	7999	10258	4048	3519
MEAN	165	5569	686	306	964	1308	399	440	267	331	131	117
MAX	580	77000	1500	650	2800	9800	510	1260	527	1290	191	201
MIN	77	190	265	165	280	450	310	245	180	113	106	95
CFSM	.26	8.67	1.07	.48	1.50	2.04	.62	.69	.42	.52	.20	.18
IN.	.30	9.68	1.23	.55	1.56	2.35	.69	.79	.46	.59	.23	.20

CAL YR 1985	TOTAL	408600	MEAN	1119	MAX	77000	MIN	77	CFSM	1.74	IN	23.68
WTR YR 1986	TOTAL	321884	MEAN	882	MAX	77000	MIN	77	CFSM	1.37	IN	18.65

POTOMAC RIVER BASIN

01607500 SOUTH FORK SOUTH BRANCH POTOMAC RIVER AT BRANDYWINE, WV

LOCATION.--Lat 38°37'53", long 79°14'38", Pendleton County, Hydrologic Unit 02070001, on left bank 50 ft upstream from bridge on U.S. Highway 33, 0.1 mi upstream from Hawes Run, 0.4 mi north of Brandywine, 0.9 mi downstream from Broad Run, and at mile 42.9.

DRAINAGE AREA.--102 mi².

PERIOD OF RECORD.--August 1943 to current year.

REVISED RECORDS.--WSP 1141: 1945(M), 1947(M). WRD WV-84-1: 1983.

GAGE.--Water-stage recorder. Datum of gage is 1,558.35 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 24, 1956, nonrecording gage at highway bridge 50 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 23-25, 27-29, 31, Jan. 1, 3-5, 7, 8, 13, 15, 17, 26-30, and Feb. 3 to Mar. 4. Records good except these periods with estimated daily discharges, which are poor. The flow from 41.3 mi² upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 8,882 acre-ft.

AVERAGE DISCHARGE.--43 years, 101 ft³/s, 13.45 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,200 ft³/s, June 17, 1949, gage height, 14.6 ft, from floodmarks, from rating curve extended above 5,300 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 18.42 ft, Nov. 4, 1985, from floodmarks; minimum, 0.3 ft³/s, Dec. 1, 10, 1958, result of freezeup; minimum gage height, 0.59 ft, Sept. 25, 26, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40,500 ft³/s, Nov. 4, gage height, 18.42 ft; minimum discharge, 4.1 ft³/s, Sept. 25, 26, gage height, 0.59 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	119	271	27	17	62	49	71	37	38	10	12
2	8.6	842	275	26	18	56	45	65	32	49	10	27
3	9.8	1090	232	25	21	50	44	60	26	47	9.6	31
4	10	7500	191	24	34	46	45	57	23	43	9.6	26
5	8.6	6650	167	23	50	42	48	56	19	39	8.7	21
6	7.8	2360	149	22	105	39	54	53	24	34	9.2	17
7	7.8	1980	125	21	98	39	58	52	51	32	13	15
8	7.3	1740	103	19	92	37	60	51	57	29	14	13
9	7.3	1380	88	19	85	34	60	48	44	27	13	12
10	7.3	1070	78	18	80	34	60	44	37	27	11	12
11	7.3	646	69	18	75	36	58	42	34	26	11	11
12	7.8	494	71	18	70	37	56	39	40	24	11	10
13	8.2	385	96	16	66	40	52	40	37	21	11	9.6
14	8.2	239	152	16	60	978	52	43	32	21	10	9.2
15	8.2	116	140	15	57	2310	51	39	26	20	10	8.7
16	8.6	98	131	15	54	1410	57	37	23	18	16	8.7
17	8.2	91	116	15	50	867	60	36	20	17	20	8.2
18	8.2	82	100	16	70	408	67	38	17	16	21	7.7
19	8.6	73	76	18	241	291	76	36	15	14	21	7.3
20	18	67	69	29	220	230	86	65	15	13	19	7.7
21	71	63	63	24	185	175	97	208	14	13	20	7.3
22	73	143	51	21	155	145	90	140	13	12	24	6.8
23	78	375	49	21	140	130	80	90	12	26	21	6.8
24	69	279	46	20	128	112	74	71	14	19	19	6.8
25	60	207	42	19	116	105	71	61	15	16	16	6.4
26	47	167	39	19	109	93	67	54	12	14	14	6.0
27	40	149	35	18	88	82	61	54	11	15	13	7.3
28	34	137	32	18	78	74	60	54	13	14	13	7.3
29	29	188	31	17	---	63	78	47	15	13	14	7.3
30	26	221	29	17	---	57	78	44	14	11	12	6.8
31	24	---	28	18	---	53	---	40	---	11	11	---
TOTAL	723.3	28951	3144	612	2562	8135	1894	1835	742	719	435.1	342.9
MEAN	23.3	965	101	19.7	91.5	262	63.1	59.2	24.7	23.2	14.0	11.4
MAX	78	7500	275	29	241	2310	97	208	57	49	24	31
MIN	6.5	63	28	15	17	34	44	36	11	11	8.7	6.0
CFSM	.23	9.46	.99	.19	.90	2.57	.62	.58	.24	.23	.14	.11
IN.	.26	10.56	1.15	.22	.93	2.97	.69	.67	.27	.26	.16	.13
CAL YR 1985	TOTAL	53258.3	MEAN 146	MAX 7500	MIN 6.5	CFSM 1.43	IN 19.42					
WTR YR 1986	TOTAL	50095.3	MEAN 137	MAX 7500	MIN 6.0	CFSM 1.34	IN 18.27					

POTOMAC RIVER BASIN

01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV

LOCATION.--Lat 39°00'44", long 78°57'23", Hardy County, Hydrologic Unit 02070001, on right bank 0.2 mi downstream from Stony Creek, 3.5 mi south of Moorefield, and at mile 6.0.

DRAINAGE AREA.--283 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1928 to September 1935, August 1938 to current year.

REVISED RECORDS.--WSP 1141: 1933(M), 1940, 1942-43, 1945, 1948(M). WSP 1302: 1931(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 861.51 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers datum). Prior to Mar. 11, 1940, nonrecording gage at Harness Ford Bridge 2.0 mi upstream at datum about 31 ft higher.

REMARKS.--Estimated daily discharges: Nov. 5-7, Jan. 10 to Feb. 9, Feb. 11-17, May 9-18, and June 3-6, 11-18. Records good except these periods of doubtful or no gage-height record, which are fair. The flow from 92.7 mi² upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,870 acre-ft.

AVERAGE DISCHARGE.--55 years, 225 ft³/s, 10.80 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 110,000 ft³/s, Nov. 5, 1985, gage height, 19.99 ft, from floodmarks, from rating curve extended above 39,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 4.4 ft³/s, Sept. 10, 11, 1965, Sept. 9-11, 1966; minimum gage height, 0.46 ft, part of each day Aug. 4-7, 14, 15, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 110,000 ft³/s, Nov. 5, gage height, 19.99 ft; minimum discharge, 11 ft³/s, Oct. 1; minimum gage height, 0.46 ft, part of each day Aug. 4-7, 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	77	662	96	115	276	125	145	98	72	19	24
2	16	793	662	94	125	252	117	135	94	92	18	28
3	19	1730	532	90	135	244	110	127	85	96	18	30
4	24	8640	435	90	155	236	107	115	77	84	17	46
5	22	28000	360	86	190	228	105	110	73	74	17	46
6	20	16000	328	84	480	220	110	105	70	66	17	42
7	18	9500	288	78	460	220	160	102	92	60	18	38
8	16	6000	252	70	410	199	171	98	115	56	18	34
9	16	3770	224	62	380	181	216	92	120	56	18	30
10	15	2810	202	60	355	188	228	88	96	56	18	28
11	15	1860	185	58	320	244	199	84	88	52	19	26
12	15	1180	178	56	295	276	178	80	82	50	18	24
13	15	858	228	55	270	288	164	82	77	46	17	22
14	16	496	420	53	250	767	150	86	73	44	17	20
15	16	324	415	52	240	7600	142	80	69	40	17	19
16	16	240	355	52	230	3100	195	77	64	38	18	19
17	15	209	312	56	220	1560	284	74	59	36	20	18
18	14	188	276	65	578	858	445	72	53	36	24	18
19	15	167	236	85	921	606	445	122	46	32	32	19
20	61	150	188	240	830	470	395	425	48	34	34	19
21	262	142	188	225	641	365	350	1690	46	30	40	19
22	358	240	164	210	508	300	308	879	42	28	38	19
23	430	739	157	195	440	256	256	480	40	28	36	18
24	327	767	157	180	395	228	216	328	42	24	46	18
25	247	532	150	170	375	202	192	248	38	28	38	19
26	188	405	132	155	312	181	178	195	38	30	32	18
27	148	332	117	145	336	167	160	164	38	28	30	20
28	123	415	122	135	312	153	147	153	44	26	32	22
29	104	1120	112	125	---	145	140	135	46	24	28	20
30	88	858	107	120	---	137	153	120	46	22	24	19
31	78	---	96	110	---	130	---	107	---	22	22	---
TOTAL	2729	88542	8240	3352	10278	20277	6146	6798	1999	1410	760	742
MEAN	88.0	2951	266	108	367	654	205	219	66.6	45.5	24.5	24.7
MAX	430	28000	662	240	921	7600	445	1690	120	96	46	46
MIN	12	77	96	52	115	130	105	72	38	22	17	18
CFSM	.31	10.4	.94	.38	1.30	2.31	.72	.77	.24	.16	.09	.09
IN.	.36	11.64	1.08	.44	1.35	2.67	.81	.89	.26	.19	.10	.10

CAL YR 1985 TOTAL 153112 MEAN 419 MAX 28000 MIN 12 CFSM 1.48 IN 20.13
WTR YR 1986 TOTAL 151273 MEAN 414 MAX 28000 MIN 12 CFSM 1.46 IN 19.88

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV

LOCATION.--Lat 39°26'49", long 78°39'16", Hampshire County, Hydrologic Unit 02070001, on left bank at highway bridge, 2.0 mi east of Springfield, and at mile 13.4.

DRAINAGE AREA.--1,471 mi².

PERIOD OF RECORD.--June 1894 to February 1896 (fragmentary), June 1899 to February 1902, August 1903 to July 1906, August 1928 to current year.

REVISED RECORDS.--WSP 1552: 1903-06, 1929-30(M), 1932-33(M), 1935(M), 1937-40(M), 1942-43(M), 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft above National Geodetic Vertical Datum of 1929. June 1894 to February 1896, nonrecording gage at Baltimore & Ohio Railroad bridge 11.2 mi upstream at different datum. June 26, 1899, to Feb. 2, 1902, nonrecording gage at bridge 10.0 mi upstream at different datum. Aug. 28, 1903, to July 14, 1906, nonrecording gage at present site at different datum. Aug. 8 to Sept. 24, 1928, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 5-14, Jan. 10-19, 24-28, 30, 31, and Feb. 1. Records good except for period of no gage-height record, Nov. 4-14, which is fair, and periods with ice effect, Jan. 10-19, 24-28, 30, 31, and Feb. 1, which are poor. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--62 years (water years 1900-01, 1904-05, 1929-86), 1,323 ft³/s, 12.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 240,000 ft³/s, Nov. 5, 1985, gage height, 44.22 ft, from floodmarks, from rating curve extended above 145,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 29 ft³/s, Jan. 28, 1956, result of freezeup, July 30, 1966, result of temporary dam; minimum gage height, 0.39 ft, July 30, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877 reached a stage of about 34 ft, from floodmarks, discharge, 140,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	unknown	*240,000	a*44.22	Mar. 15	1900	39,300	19.18
Nov. 29	1400	11,500	10.50				

a From floodmarks

Minimum discharge, 123 ft³/s, Oct. 1, gage height, 1.65 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	392	4600	719	880	2000	1060	1080	684	635	210	191
2	131	345	3580	719	962	1840	1010	978	621	1130	207	185
3	134	2420	2730	691	986	1770	970	882	570	1910	176	182
4	139	12000	2190	663	1300	1760	930	834	534	1710	167	188
5	154	145000	1870	656	2890	1690	906	789	498	1170	164	298
6	175	80600	1740	642	3190	1650	914	733	480	890	170	288
7	175	29800	1620	594	2850	1650	1030	698	486	705	179	251
8	163	21800	1450	570	2530	1530	1380	677	504	582	167	228
9	154	16500	1320	564	2360	1400	1300	670	850	516	161	207
10	145	11900	1200	540	2340	1510	1500	621	768	474	173	191
11	142	8360	1130	520	2330	2620	1430	600	614	510	188	179
12	137	5050	1100	505	2190	4080	1360	594	546	510	185	170
13	134	3010	1540	495	1900	3250	1340	564	516	432	170	161
14	139	1990	3670	480	1660	4360	1490	588	522	390	160	152
15	148	1530	3260	465	1580	28100	1470	656	474	355	164	143
16	154	1320	2510	460	1530	17000	1900	614	444	350	164	140
17	145	1390	2060	450	1520	8300	2810	570	504	345	164	135
18	142	1220	1860	450	2930	5350	3280	540	390	302	224	130
19	142	1090	1630	540	7610	3900	2760	576	345	275	221	130
20	151	994	1360	866	7390	3210	2440	826	330	267	228	132
21	1350	922	1290	2020	6000	2640	2190	4110	320	267	239	135
22	3070	1430	1200	1710	3910	2250	1990	3680	320	251	235	138
23	3040	5050	1130	1590	3290	2000	1750	2410	340	247	239	140
24	2000	3850	1120	1500	2940	1820	1550	1820	330	247	255	143
25	1340	2710	1080	1400	2710	1660	1410	1470	306	271	275	146
26	966	2130	874	1280	2460	1520	1320	1220	306	275	280	143
27	748	1850	842	1180	2350	1420	1240	1050	360	251	275	143
28	617	3540	834	1050	2240	1340	1150	978	330	231	232	143
29	524	10000	834	914	---	1270	1080	954	320	284	214	146
30	459	7440	768	850	---	1190	1110	842	426	271	204	158
31	415	---	740	830	---	1120	---	768	---	232	197	---
TOTAL	17456	385633	53132	25913	76828	115200	46070	33392	14038	16285	6287	5116
MEAN	563	12850	1714	836	2744	3716	1536	1077	468	525	203	171
MAX	3070	145000	4600	2020	7610	28100	3280	4110	850	1910	280	298
MIN	123	345	740	450	880	1120	906	540	306	231	160	130
CFSM	.38	8.74	1.17	.57	1.87	2.53	1.04	.73	.32	.36	.14	.12
IN.	.44	9.75	1.34	.66	1.94	2.91	1.17	.84	.36	.41	.16	.13

CAL YR 1985	TOTAL	842143	MEAN	2307	MAX	145000	MIN	118	CFSM	1.57	IN	21.30
WTR YR 1986	TOTAL	795350	MEAN	2179	MAX	145000	MIN	123	CFSM	1.48	IN	20.11

POTOMAC RIVER BASIN

01610000 POTOMAC RIVER AT PAW PAW, WV

LOCATION.--Lat 39°32'13", long 78°27'28", Allegany County, Md., Hydrologic Unit 02070003, on left bank 250 ft upstream from bridge on Maryland State Highway 51 at Paw Paw, 3.3 mi downstream from Little Cacapon River, and at mile 277.

DRAINAGE AREA.--3,109 mi².

PERIOD OF RECORD.--October 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 487.88 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1939, nonrecording gage at bridge 250 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 14-17, 28-31, and Feb. 1, 11-14. Records good. Low flow affected by Stony River Reservoir prior to July 1981 (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake (see station 01595800). National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--48 years, 3,307 ft³/s, 14.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 235,000 ft³/s, Nov. 5, 1985, gage height, 53.58 ft, from rating curve extended above 85,000 ft³/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, W. Va.; minimum discharge, 164 ft³/s, Sept. 10, 11, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 54.0 ft Mar. 18, 1936, discharge, 240,000 ft³/s, from rating curve extended above 85,000 ft³/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, W. Va.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 5	2215	*235,000	*53.58	Feb. 20	0845	28,300	20.93
Nov. 29	0345	21,900	18.76	Mar. 15	2145	54,600	27.86

Minimum discharge, 441 ft³/s, Sept. 18, gage height, 4.73 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	985	1210	12100	2540	2100	4210	2290	2610	1580	1130	603	1010
2	874	1220	10800	2420	2050	3820	2200	2480	1470	1350	587	845
3	838	2400	9340	2430	2190	3660	2080	2310	1420	2450	725	632
4	701	13400	8940	2330	2880	3560	1970	2140	1230	2540	1040	572
5	746	113000	7200	2140	7110	3430	1940	2040	1160	2040	608	562
6	790	125000	6720	2070	9020	3320	2010	1960	1110	2000	561	641
7	803	28900	6120	2010	7700	3250	2240	1880	1210	2090	600	593
8	793	20700	5690	1910	6650	2970	2490	1850	2160	1240	632	563
9	781	15100	5350	1890	5990	2840	2430	1760	1970	1180	593	539
10	777	12100	5210	1950	5770	2990	2470	1660	1560	1220	572	524
11	767	10700	4740	1870	4900	4400	2510	1600	1430	1060	584	513
12	758	9400	4590	1840	4200	6840	2450	1540	1430	1110	586	505
13	749	7570	5070	1850	3600	6560	2380	1490	1400	1130	574	489
14	770	6100	8100	1600	3300	9030	2430	1560	1280	996	557	477
15	836	5440	7600	1500	3270	43600	2450	1690	1180	898	546	470
16	803	5120	6640	1450	3090	35500	2930	1650	1080	847	570	464
17	787	9970	5970	1500	3080	16400	4450	1550	1120	882	568	454
18	775	7070	5440	1540	5840	9770	5750	1500	1070	853	578	443
19	775	5820	4790	1520	15000	7510	5060	1570	937	842	610	471
20	786	5130	4320	1890	25900	6590	4600	2090	888	885	635	605
21	1100	4540	4240	2840	18700	5070	4230	4820	874	947	661	606
22	4410	5890	3930	2880	14500	4210	3800	5610	845	861	677	597
23	4980	12200	4060	2710	10600	3790	3500	4170	842	797	666	598
24	4170	9760	3760	2750	8240	3620	3160	3410	842	862	673	603
25	3620	7680	3610	2700	6810	3360	2860	2890	820	765	664	663
26	2950	6800	3280	2630	5740	3070	2700	2550	813	784	660	683
27	2500	9600	3000	2600	5190	2860	2590	2320	830	723	668	669
28	2240	14800	2910	2350	4770	2730	2450	2200	885	687	651	857
29	2040	21700	2750	1900	---	2610	2350	2150	859	662	608	1120
30	1640	17200	2630	1950	---	2500	2380	1770	835	679	710	943
31	1260	---	2490	2000	---	2390	---	1650	---	637	1000	---
TOTAL	46804	515520	171390	65560	198190	216460	87150	70470	35130	35147	19967	18711
MEAN	1510	17180	5529	2115	7078	6983	2905	2273	1171	1134	644	624
MAX	4980	125000	12100	2880	25900	43600	5750	5610	2160	2540	1040	1120
MIN	701	1210	2490	1450	2050	2390	1940	1490	813	637	546	443

CAL YR 1985	TOTAL	1633814	MEAN	4476	MAX	125000	MIN	560	CFSM	1.44	IN	19.55
WTR YR 1986	TOTAL	1480499	MEAN	4056	MAX	125000	MIN	443	CFSM	1.31	IN	17.71

POTOMAC RIVER BASIN

01611500 CACAPON RIVER NEAR GREAT CACAPON, WV

LOCATION.--Lat 39°34'43", long 78°18'34", Morgan County, Hydrologic Unit 02070003, on left bank at Rock Ford, 3.0 mi southwest of Great Cacapon, and at mile 6.5.

DRAINAGE AREA.--677 mi².

PERIOD OF RECORD.--December 1922 to current year.

REVISED RECORDS.--WSP 800: 1924(M). WSP 921: Drainage area. WSP 951: 1936-37, WSP 1552: 1925-26(M), 1928, 1929(M), 1932.

GAGE.--Water-stage recorder. Datum of gage is 456.78 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Nov. 10, 1933, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 23-25, 27-31, Jan. 1-3, 5, 7-18, 27-31, and Feb. 1, 3, 11, 12. Records good except those for periods with ice effect, which are poor.

AVERAGE DISCHARGE.--63 years (water years 1924-86), 589 ft³/s, 11.81 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,600 ft³/s, Mar. 18, 1936, gage height, 30.1 ft, from rating curve extended above 52,000 ft³/s; minimum, 26 ft³/s, Sept. 11-13, 1966; minimum gage height, 0.35 ft, Sept. 21, 22, 1932, Sept. 11-13, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1889 reached a stage of 24.7 ft, from floodmarks, discharge, 57,500 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	2330	*44,500	a*21.95	Feb. 19	1400	6,120	8.41
Nov. 29	1900	4,770	7.47	Mar. 15	1800	15,600	13.27

a From high-water mark.

Minimum discharge, 48 ft³/s, Sept. 17, 18, gage height, 0.82 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	139	2240	270	300	880	394	366	208	88	68	63
2	55	141	1850	260	315	754	370	340	188	95	66	63
3	54	220	1540	255	350	718	346	318	170	113	65	63
4	57	3770	1190	256	550	718	336	294	152	113	61	66
5	58	26800	994	250	1140	706	326	280	148	119	61	67
6	59	14700	904	244	1340	712	343	256	143	121	65	70
7	59	3850	850	230	1180	724	398	238	152	105	102	69
8	66	2370	748	215	988	676	482	229	190	95	210	64
9	64	1610	658	205	838	555	494	220	182	100	150	60
10	59	1190	595	195	832	610	450	212	182	98	117	58
11	57	940	540	190	800	778	555	200	165	96	103	57
12	55	754	502	185	740	1090	545	190	143	96	90	55
13	53	622	545	180	688	1080	494	182	131	119	80	53
14	57	545	1450	175	565	1580	442	182	123	115	75	51
15	59	502	1570	170	565	10300	418	198	117	96	71	51
16	57	454	1210	165	590	6680	450	200	111	86	71	51
17	55	555	1010	160	565	3210	772	192	111	90	71	49
18	54	550	826	160	1050	2210	1920	182	102	103	69	48
19	54	478	646	190	4940	1750	2080	205	96	102	75	50
20	57	418	482	235	5310	1450	1580	280	96	91	117	51
21	74	374	474	332	3410	1170	1250	1320	95	93	123	52
22	390	438	426	346	2410	952	1050	2100	96	93	105	52
23	1120	2290	400	340	1840	814	850	1140	98	95	103	52
24	1320	2010	380	418	1550	730	688	718	102	88	113	51
25	694	1400	360	442	1380	652	580	520	98	83	103	53
26	454	1040	343	430	1190	580	520	414	95	117	85	54
27	326	862	325	395	1100	535	490	343	90	107	78	54
28	256	1140	315	350	1040	498	454	301	93	93	72	54
29	210	3880	310	300	---	470	418	271	95	83	68	55
30	175	3260	295	270	---	442	390	253	91	77	64	53
31	150	---	280	280	---	418	---	223	---	72	64	---
TOTAL	6311	77302	24258	8093	37566	44442	19885	12367	3863	3042	2765	1689
MEAN	204	2577	783	261	1342	1434	663	399	129	98.1	89.2	56.3
MAX	1320	26800	2240	442	5310	10300	2080	2100	208	121	210	70
MIN	53	139	280	160	300	418	326	182	90	72	61	48
CFSM	.30	3.81	1.16	.39	1.98	2.12	.98	.59	.19	.15	.13	.08
IN.	.35	4.25	1.33	.44	2.06	2.44	1.09	.68	.21	.17	.15	.09

CAL YR 1985	TOTAL	214202	MEAN 587	MAX 26800	MIN 49	CFSM .87	IN 11.77
WTR YR 1986	TOTAL	241583	MEAN 662	MAX 26800	MIN 48	CFSM .98	IN 13.27

POTOMAC RIVER BASIN

01613000 POTOMAC RIVER AT HANCOCK, MD

LOCATION.--Lat 39°41'49", long 78°10'39", Washington County, Hydrologic Unit 02070004, on left bank, 0.2 mi downstream from Little Tonoloway Creek, 0.5 mi downstream from bridge on U.S. Highway 522 at Hancock, 1.1 mi upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and at mile 239.

DRAINAGE AREA.--4,073 mi².

PERIOD OF RECORD.--October 1932 to current year. Gage-height records collected at same site since June 1925 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 781: 1933(M). WSP 801: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 383.68 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1932, to Jan. 5, 1935, Mar. 18, 1936, to Jan. 20, 1937, nonrecording gage, on former highway bridge just upstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 5-7, Jan. 16-19, and Jan.31 to Feb. 2. Records good. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir prior to July 1981 (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake (see station 01595800). National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--54 years, 4,167 ft³/s, 13.89 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 340,000 ft³/s, Mar. 18, 1936, gage height, 47.6 ft, from rating curve extended above 120,000 ft³/s on basis of slope-area measurement of peak flow; minimum discharge observed, 180 ft³/s, Oct. 4, 1932, gage height, 2.01 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1932, about 40 ft in May 1889, discharge, about 220,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 6	0630	*207,000	*41.20	Feb. 20	1430	39,900	17.74
Nov. 29	2145	28,400	14.75	Mar. 15	2345	71,600	24.25

Minimum discharge, 560 ft³/s, Sept. 18, gage height, 2.74 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	1700	17700	2640	2300	6460	2930	3130	2010	863	729	1180
2	986	1640	15200	2600	2400	5620	2780	3170	1780	1190	679	1210
3	876	1770	13400	2540	2450	5210	2600	2930	1620	1650	653	1030
4	836	8590	11700	2510	3360	5030	2430	2660	1470	2810	828	768
5	689	84200	10100	2340	8400	4870	2300	2440	1350	2570	1190	699
6	678	168000	8610	2060	13800	4680	2340	2310	1280	1990	726	711
7	682	51300	7990	2000	12200	4590	2560	2220	1280	2260	673	816
8	698	25600	7200	1900	10200	4280	2990	2100	1790	1920	809	768
9	701	18900	6660	1620	8820	3850	3250	2020	2940	1280	899	723
10	686	14500	6270	1700	8240	3880	3050	1890	2370	1280	764	690
11	673	12600	5930	1960	7760	5090	3280	1750	2000	1220	719	670
12	661	11000	5390	1830	6670	8480	3290	1660	1650	1120	696	655
13	653	9470	5510	1730	5510	9780	3150	1590	1510	1200	688	639
14	655	7220	8960	1650	4790	11500	3020	1570	1440	1200	667	617
15	674	6290	10800	1450	4480	51900	3120	1670	1330	1060	642	596
16	719	5760	9160	1400	4370	57600	3600	1810	1230	949	630	587
17	682	12000	8000	1350	4220	27800	5490	1720	1150	907	689	578
18	672	10400	7070	1350	6760	17000	8820	1610	1150	961	677	568
19	662	7350	6130	1500	20400	12100	9300	1730	1100	925	668	569
20	667	6260	5270	1620	36700	10400	7680	2200	981	886	760	577
21	753	5270	4770	2370	30400	8520	6970	4940	926	929	831	737
22	2270	5240	4890	3710	23600	6860	6040	9960	911	943	840	765
23	6300	14200	4500	3360	17400	6080	5300	7210	884	881	838	760
24	6660	14500	4540	3320	13400	5480	4770	5440	892	823	839	779
25	5090	10800	4100	3430	11000	4960	4150	4310	890	873	829	780
26	4020	8800	3740	3370	9140	4360	3770	3620	853	854	811	835
27	3110	10800	3340	3330	7980	3960	3550	3130	842	938	801	863
28	2590	16700	3140	3030	7310	3690	3340	2800	880	847	797	850
29	2240	26800	3140	2390	---	3480	3090	2650	924	790	766	1080
30	1980	25100	3010	2070	---	3290	2920	2500	888	749	705	1390
31	1800	---	2840	2200	---	3100	---	2250	---	777	801	---
TOTAL	51523	602760	219060	70330	294060	313900	121880	90990	40321	37645	23644	23490
MEAN	1662	20090	7066	2269	10500	10130	4063	2935	1344	1214	763	783
MAX	6660	168000	17700	3710	36700	57600	9300	9960	2940	2810	1190	1390
MIN	653	1640	2840	1350	2300	3100	2300	1570	842	749	630	568
CFSM	.41	4.93	1.74	.56	2.58	2.49	1.00	.72	.33	.30	.19	.19
IN.	.47	5.51	2.00	.64	2.69	2.87	1.11	.83	.37	.34	.22	.21
CAL YR 1985	TOTAL	1894317	MEAN	5190	MAX	168000	MIN	589	CFSM	1.27	IN	17.30
WTR YR 1986	TOTAL	1889603	MEAN	5177	MAX	168000	MIN	568	CFSM	1.27	IN	17.26

POTOMAC RIVER BASIN

01616500 OPEQUON CREEK NEAR MARTINSBURG, WV

LOCATION.--Lat 39°25'25", long 77°56'20", Berkeley County, Hydrologic Unit 02070004, on right bank 300 ft upstream from Evans Run, 2.3 mi upstream from Tuscarora Creek, 3.0 mi southeast of Martinsburg, and at mile 11.1.

DRAINAGE AREA.--272 mi².

PERIOD OF RECORD.--May 1905 to July 1906, July 1947 to current year.

REVISED RECORDS.--WSP 1702: 1959.

GAGE.--Water-stage recorder. Datum of gage is 354.89 ft above National Geodetic Vertical Datum of 1929. Prior to July 1906, nonrecording gage at approximately the same site at different datum. July 23, 1947 to July 22, 1948, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--39 years (water years 1947-86), 231 ft³/s, 11.53 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft³/s, June 22, 1972, gage height, 17.45 ft, from rating curve extended above 7,100 ft³/s; minimum observed, 25 ft³/s, Oct. 25, 1947; minimum gage height, 1.24 ft, Jan. 8, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of about 17.5 ft, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 4	2000	2,570	9.82	Mar. 15	1500	*4,260	*11.43

Minimum discharge, 42 ft³/s, Sept. 14, 16-18, gage height, 1.62 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	77	676	173	132	419	248	157	103	78	56	48
2	49	128	667	168	155	396	243	154	105	86	57	51
3	57	174	487	167	188	387	234	147	105	86	76	54
4	55	1900	376	168	316	382	228	144	105	77	63	54
5	64	2120	331	165	672	397	225	143	105	74	84	52
6	57	1100	321	160	520	388	239	140	126	70	65	51
7	51	595	333	154	405	373	251	137	113	69	71	49
8	49	407	308	142	341	322	237	133	108	69	64	47
9	48	314	278	144	312	314	220	128	108	78	60	46
10	48	268	255	145	328	315	212	127	105	95	56	46
11	48	238	243	142	358	341	208	125	102	78	56	46
12	46	220	233	139	339	319	207	123	100	83	56	45
13	46	207	331	138	290	356	200	120	100	76	54	44
14	51	201	607	135	262	684	192	126	92	72	53	43
15	71	196	384	130	261	3330	192	124	92	69	53	44
16	69	185	312	126	245	1300	254	122	82	68	53	43
17	54	244	283	127	277	778	279	119	86	73	58	43
18	51	219	253	127	771	622	336	115	84	77	89	44
19	50	198	251	133	1350	548	272	114	83	72	63	45
20	53	186	233	450	1540	481	241	169	85	72	58	46
21	65	174	229	450	916	416	227	413	95	71	70	46
22	356	366	213	325	658	376	219	189	85	66	83	46
23	504	804	216	265	558	358	207	137	84	69	62	47
24	475	428	215	223	563	338	195	119	88	94	57	47
25	292	316	218	202	550	316	188	110	89	82	53	49
26	178	271	197	202	508	304	184	100	81	67	51	50
27	126	256	191	224	502	295	178	100	80	65	51	49
28	100	474	189	184	468	281	170	102	85	62	53	46
29	85	1450	184	168	---	270	165	106	85	61	56	47
30	77	754	179	165	---	268	160	108	80	58	50	46
31	76	---	173	131	---	255	---	105	---	56	49	---
TOTAL	3396	14470	9366	5772	13785	15929	6611	4256	2841	2273	1880	1414
MEAN	110	482	302	186	492	514	220	137	94.7	73.3	60.6	47.1
MAX	504	2120	676	450	1540	3330	336	413	126	95	89	54
MIN	45	77	173	126	132	255	160	100	80	56	49	43
CFSM	.40	1.77	1.11	.68	1.81	1.89	.81	.50	.35	.27	.22	.17
IN.	.46	1.98	1.28	.79	1.89	2.18	.90	.58	.39	.31	.26	.19

CAL YR 1985	TOTAL	70259	MEAN 192	MAX 3940	MIN 42	CFSM .71	IN 9.61
WTR YR 1986	TOTAL	81993	MEAN 225	MAX 3330	MIN 43	CFSM .83	IN 11.21

POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV

LOCATION.--Lat 39°26'04", long 77°48'07", Jefferson County, Hydrologic Unit 02070004, on right bank, 0.1 mi downstream from Rumsey Bridge at Shepherdstown, 3.3 mi upstream from Antietam Creek, and at mile 184.

DRAINAGE AREA.--5,936 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to September 1953. Annual maximums, water years 1954-64. July 1964 to current year. Gage-height record and estimated discharges October 1953 to June 1964 available in files of the Mid-Atlantic district office.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1929(M).

GAGE.--Water-stage recorder. Datum of gage is 281.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: May 4-5. Water-discharge records good. Some regulation at low flow by power plants upstream from station, prior to July 1981 by Stony River Reservoir (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake (see station 01595800). National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE.--47 years (water years 1929-53, 1965-86), 6,148 ft³/s, 14.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335,000 ft³/s, Mar. 19, 1936, gage height, 42.1 ft, from floodmarks, from rating curve extended above 200,000 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 170 ft³/s, Aug. 1, 1966; minimum daily discharge, 185 ft³/s, July 31, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in June 1889 and May 1924 reached stages of 39.2 ft and 29.8 ft respectively, from floodmarks, discharges, about 290,000 ft³/s and 168,000 ft³/s respectively, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 7	0030	*187,000	*31.44	Nov. 29	2300	39,800	12.44
Nov. 18	0330	23,300	8.93	Feb. 20	2300	54,900	15.30
Nov. 24	0530	24,400	9.18	Mar. 16	0800	93,700	21.43

Minimum discharge, 565 ft³/s, Aug. 17, gage height, 1.53 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	892	2200	28700	3690	3470	10800	4670	4100	3000	1310	942	975
2	1320	2050	23200	3570	3910	9370	4350	4320	2730	1360	1030	1330
3	1390	2160	21500	3500	4400	8320	4020	4070	2460	1550	994	1460
4	1190	6000	17600	3460	4660	7870	3630	3800	2270	1970	1010	1260
5	1210	52900	15700	3410	9700	7630	3800	3600	2160	3060	1060	1090
6	1100	138000	13000	3170	18500	7400	3940	3340	2110	2830	1320	1010
7	974	137000	11800	3000	19200	7150	3570	3180	2150	2240	1210	968
8	799	39800	10800	2890	15800	6890	4380	3140	2120	2420	1040	1040
9	896	27400	9840	3010	13400	6230	4600	2970	2740	2230	1030	1100
10	866	20200	9040	2480	11800	5960	4570	2870	3360	1730	1160	830
11	836	16500	8460	2660	11400	6270	4210	2700	2900	1620	1100	931
12	791	14500	7800	2800	10200	8830	4320	2600	2610	1630	1010	915
13	845	12700	7520	2880	8670	12800	4250	2500	2240	1400	980	877
14	812	10300	9780	2670	7140	14500	4110	2440	2110	1520	969	839
15	818	8420	14800	2480	6540	48200	4390	2420	2070	1530	964	833
16	841	7750	13600	2340	6430	87700	4950	2460	1880	1460	897	780
17	939	13100	11700	2340	6250	52000	6980	2580	1780	1310	788	814
18	937	20600	10300	2370	7700	30400	12000	2500	1660	1200	1240	841
19	891	13200	8830	2670	21400	21100	14900	2340	1640	1180	1110	672
20	854	10000	7390	3080	46100	16700	12600	2580	1610	1370	1110	790
21	976	8400	6730	4230	49500	14200	10800	5160	1520	1320	1100	787
22	1470	7340	5910	5270	39500	11400	9570	12000	1420	1350	1260	842
23	4270	15800	5880	5650	30500	9460	8220	11400	1320	1390	1200	959
24	8450	22800	6260	5220	23100	8300	7260	8220	1440	1390	1190	972
25	7690	17200	5810	5010	18600	7680	6430	6490	1380	1300	1140	1020
26	5940	13300	5140	5060	15400	7090	5750	5310	1350	1230	1090	965
27	4560	13200	4200	5000	13400	6430	5300	4610	1260	1230	1060	1060
28	3640	19800	4510	4540	12000	5890	4790	4130	1270	1210	1110	1070
29	3060	33300	4010	3950	---	5540	4580	3770	1300	1180	1040	1060
30	2660	37600	3880	3250	---	5270	4170	3530	1310	1130	999	1160
31	2370	---	3710	3190	---	4900	---	3310	---	932	982	---
TOTAL	64287	743520	317400	108840	438670	462280	181110	128440	59170	48582	33135	29250
MEAN	2074	24780	10240	3511	15670	14910	6037	4143	1972	1567	1069	975
MAX	8450	138000	28700	5650	49500	87700	14900	12000	3360	3060	1320	1460
MIN	791	2050	3710	2340	3470	4900	3570	2340	1260	932	788	672
CFSM	.35	4.18	1.73	.59	2.64	2.51	1.02	.70	.33	.26	.18	.16
IN.	.40	4.66	1.99	.68	2.75	2.90	1.13	.80	.37	.30	.21	.18

CAL YR 1985	TOTAL	2497460	MEAN	6842	MAX	138000	MIN	733	CFSM	1.15	IN	15.65
WTR YR 1986	TOTAL	2614684	MEAN	7164	MAX	138000	MIN	672	CFSM	1.21	IN	16.39

POTOMAC RIVER BASIN

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01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1981 (discontinued).

WATER TEMPERATURE: October 1980 to September 1981 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: Maximum, 670 microsiemens, Aug. 6, 10, 15, 30, Sept. 3, 1981; minimum, 160 microsiemens, Apr. 14-15, 1981.

WATER TEMPERATURE: Maximum, 30.0°C, July 17, 21, 25, 1981; minimum, 1.0°C, Feb. 13, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED CENT SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV											
04...	1230	4440	350	7.70	14.5	13.0	751	1.9	--	--	67
06...	1300	145000	165	7.60	16.0	13.0	751	3500	--	--	>600
JAN											
07...	1030	2980	340	7.80	-2.0	1.5	769	2.7	14.4	102	K3
MAR											
03...	1045	8240	253	7.65	6.0	0.0	756	4.4	13.4	92	K6
MAY											
05...	1100	3650	300	8.15	19.0	18.0	758	--	9.7	103	22
JUL											
01...	1230	1300	440	8.11	22.0	24.0	760	1.0	7.5	90	65
SEP											
02...	1135	1250	462	8.00	20.0	21.0	764	3.4	9.8	110	K140

DATE	STREP- TOCOCCL FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE IT-FLD (MG/L AS HCO3)
NOV										
04...	87	150	78	47	8.3	11	13	0.4	2.7	90
06...	K31000	66	16	22	2.6	2.2	6	0.1	3.2	61
JAN										
07...	>10000	150	70	44	9.0	8.1	11	0.3	2.1	94
MAR										
03...	K16	110	53	32	6.5	6.6	12	0.3	1.7	66
MAY										
05...	K10	--	--	--	--	--	--	--	--	76
JUL										
01...	64	170	68	52	9.2	12	13	0.4	2.5	122
SEP										
02...	--	190	90	61	10	16	15	0.5	3.2	127

DATE	AIKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
NOV										
04...	74	2.9	63	16	0.2	6.1	200	200	0.27	2400
06...	49	2.4	22	3.5	0.2	5.1	97	92	0.13	38000
JAN										
07...	77	2.4	56	13	<0.1	5.0	193	190	0.26	1550
MAR										
03...	54	2.3	28	12	0.2	6.4	130	130	0.18	2890
MAY										
05...	62	0.9	--	--	--	--	--	--	--	--
JUL										
01...	100	1.5	59	22	0.1	2.4	239	220	0.33	839
SEP										
02...	103	2.0	85	30	0.2	4.3	284	270	0.39	958

K: Results based on colony count outside the accepted range (non-ideal colony).

POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)
NOV 04...	1.29	--	0.01	0.03	1.30	0.08	0.07	0.09	0.62	--
06...	0.86	--	0.02	0.07	0.88	0.86	0.18	0.23	3.2	0.72
JAN 07...	1.59	7.1	0.01	0.03	1.60	0.12	0.12	0.15	0.38	--
MAR 03...	1.69	--	0.01	0.03	1.70	0.06	0.07	0.09	0.34	--
MAY 05...	0.81	--	0.01	0.03	0.82	0.04	0.03	0.04	0.36	--
JUL 01...	0.91	--	0.01	0.03	0.92	0.05	0.04	0.05	0.55	--
SEP 02...	0.98	--	0.02	0.07	1.00	0.09	0.07	0.09	0.51	--
DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS PO4)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV 04...	0.7	--	--	--	0.07	0.21	0.06	0.05	0.15	20
06...	4.1	0.9	3.2	1.8	3.30	10	0.03	0.02	0.06	300
JAN 07...	0.5	--	--	--	0.06	0.18	0.04	0.04	0.12	--
MAR 03...	0.4	--	--	--	0.03	--	0.03	0.02	0.06	40
MAY 05...	0.4	--	--	--	0.03	--	<0.01	<0.01	--	--
JUL 01...	0.6	--	--	--	0.04	--	0.02	0.02	0.06	--
SEP 02...	0.6	--	--	--	0.08	--	0.05	0.05	0.15	<10
DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
NOV 04...	<1	55	<0.5	<1	<1	<3	1	26	<1	9
06...	1	42	<0.5	<1	<1	<3	3	220	<1	6
MAR 03...	<1	46	<0.5	<1	<1	<3	<1	27	<1	5
SEP 02...	1	53	<0.5	1	<1	<3	3	<3	<5	16
DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	
NOV 04...	34	<0.1	<10	1	<1	<1	230	<6	25	
06...	9	<0.1	<10	1	<1	1	90	<6	22	
MAR 03...	53	<0.1	<10	2	<1	<1	150	<6	3	
SEP 02...	5	<0.1	<10	3	<1	<1	300	<6	8	

POTOMAC RIVER BASIN

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01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)			
NOV 04...	1230	4440	8	96			
JAN 07...	1030	2980	4	32			
MAR 03...	1045	8240	2	44			
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
NOV 06...	1300	145000	4460	1750000	59	76	90
DATE		SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
NOV 06...	96	99	100	100	100	100	100

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV
(National stream-quality accounting network station)

LOCATION.--Lat 39°16'55", long 77°47'22", Jefferson County, Hydrologic Unit 02070007, on left bank 0.4 mi downstream from Cattail Run, 1.0 mi upstream from Millville, 5.0 mi upstream from Harpers Ferry, and at mile 5.0.

DRAINAGE AREA.--3,040 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1895 to March 1909, August 1928 to current year.

REVISED RECORDS.--WSP 951: 1936(M). WSP 1432: Drainage area at former site, 1895-99, 1901-02, 1905, 1907-08, 1932(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 293.00 ft above National Geodetic Vertical Datum, adjustment of 1912. Apr. 15, 1895, to Mar. 31, 1909, nonrecording gage at site 0.8 mi downstream at datum 0.32 ft higher.

REMARKS.--Records good. Regulation by hydroelectric plants, particularly that of Potomac Light and Power Co., 0.5 mi upstream from station. U.S. Army Corps of Engineers satellite telemeter and National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--71 years (water years 1896-1908, 1929-86), 2,699 ft³/s, 12.06 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 230,000 ft³/s, Oct. 16, 1942, gage height, 32.4 ft, from floodmarks; minimum, about 59 ft³/s, Oct. 4, 1930, gage height, 0.39 ft; minimum daily, 194 ft³/s, July 24, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1870 reached practically same stage as flood of Mar. 18, 1936, 26.36 ft, discharge, 151,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 6	1900	*142,000	*25.60	Mar. 16	1630	18,000	9.23

Minimum discharge, 285 ft³/s, June 23, gage height, 1.03 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	445	920	7250	1910	1380	3400	2200	1860	1290	607	503	476
2	450	1150	9690	1890	1370	3220	2080	1770	1190	637	461	512
3	477	3730	7890	1830	1370	3010	2020	1670	1160	824	493	566
4	569	15300	6560	1780	1470	2880	1890	1620	995	810	498	592
5	596	54100	5540	1720	1840	2820	1890	1550	1010	833	451	567
6	577	125000	4960	1680	2220	2800	1920	1410	1010	796	434	674
7	625	66300	4600	1650	2470	2730	2120	1450	885	709	728	720
8	614	23900	4310	1610	2450	2640	2240	1380	876	676	738	654
9	518	13200	3950	1410	2430	2470	2400	1380	925	624	688	601
10	485	10300	3680	1400	2540	2380	2340	1320	1200	625	606	580
11	493	8190	3460	1420	2820	2360	2350	1270	1340	636	475	567
12	489	6810	3260	1390	3030	2350	2260	1240	1180	661	439	519
13	460	5730	3220	1410	2980	2350	2210	1190	1080	637	424	477
14	450	4760	3350	1330	2760	2560	2100	1190	1060	609	418	468
15	538	4060	3420	1310	2530	6390	2040	1270	929	544	426	468
16	466	3580	3380	1360	2400	16300	2400	1240	860	510	429	450
17	434	3240	3170	1300	2350	13700	2640	1250	835	558	436	419
18	487	2970	3030	1270	2460	9270	3900	1280	737	529	460	413
19	462	2800	2890	1300	4020	7090	4270	1270	648	517	503	430
20	491	2620	2710	1440	6210	5970	3890	1260	676	533	503	434
21	545	2440	2590	1530	6310	5120	3490	1360	732	555	711	427
22	1310	2450	2460	1490	5450	4420	3190	1550	695	536	736	402
23	2380	3440	2420	1480	4780	3840	3060	1850	556	564	651	416
24	3180	5240	2390	1320	4400	3440	2810	2560	636	499	598	432
25	2960	5380	2380	1350	4260	3180	2620	2300	631	655	644	426
26	2190	4610	2340	1360	3980	2920	2320	1970	622	568	641	435
27	1730	4060	2310	1380	3790	2710	2250	1770	644	533	561	443
28	1380	3870	2250	1380	3640	2560	2180	1610	574	525	546	417
29	1150	4900	2030	1550	---	2440	2060	1360	627	543	537	444
30	1100	5530	2000	1480	---	2350	1960	1360	619	545	491	440
31	935	---	1940	1470	---	2280	---	1220	---	523	468	---
TOTAL	28986	400580	115430	46200	87710	131950	75100	46780	26222	18921	16697	14869
MEAN	935	13350	3724	1490	3133	4256	2503	1509	874	610	539	496
MAX	3180	125000	9690	1910	6310	16300	4270	2560	1340	833	738	720
MIN	434	920	1940	1270	1370	2280	1890	1190	556	499	418	402
CFSM	.31	4.39	1.23	.49	1.03	1.40	.82	.50	.29	.20	.18	.16
IN.	.35	4.90	1.41	.57	1.07	1.61	.92	.57	.32	.23	.20	.18
CAL YR 1985	TOTAL	1056715	MEAN	2895	MAX	125000	MIN	434	CFSM	.95	IN	12.93
WTR YR 1986	TOTAL	1009445	MEAN	2766	MAX	125000	MIN	402	CFSM	.91	IN	12.35

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-63, 1965, 1969-71, 1979 to current year.

INSTRUMENTATION.--Water-quality monitor October 1980 to September 1983.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1983.

WATER TEMPERATURE: October 1980 to September 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1981-82): Maximum, 778 microsiemens, Dec. 29, 1980; minimum, 212 microsiemens, Jan. 17, 1982.

WATER TEMPERATURE: Maximum, 30.0°C, July 20, 21, 1981; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARD- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)
NOV											
04...	1030	14700	210	7.80	13.0	100	752	9.3	89	--	>2000
06...	1610	140000	144	7.30	12.0	1600	752	--	--	1.5	>3000
JAN											
06...	1015	1710	390	8.70	3.0	1.1	756	13.3	100	--	K2
MAR											
04...	1115	2900	290	9.11	5.0	1.6	756	--	--	--	<1
MAY											
05...	0900	1590	317	8.64	17.0	--	758	9.0	94	--	31
JUL											
01...	1000	618	490	8.70	25.0	1.0	759	5.6	68	--	67
SEP											
02...	0920	515	510	8.58	21.0	5.9	763	9.5	107	--	K560

DATE	STREP- TOCOC- CI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CAC03	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	CAR- BONATE IT-FLD (MG/L AS CO3)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L - CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)
NOV											
04...	2000	86	22	24	6.3	9.6	2.7	78	--	64	25
06...	>20000	53	16	17	2.6	2.3	3.3	45	--	37	20
JAN											
06...	1000	170	41	45	13	16	2.4	141	6.0	125	44
MAR											
04...	K11	130	36	36	9.0	11	1.7	96	7.2	91	26
MAY											
05...	22	--	--	--	--	--	--	96	4.8	86	--
JUL											
01...	E730	140	36	33	13	45	2.9	112	4.8	100	97
SEP											
02...	K450	170	35	43	16	56	3.0	159	4.8	139	120

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
NOV										
04...	8.2	<0.10	8.6	125	120	<0.010	0.900	0.070	0.050	1.6
06...	3.5	0.10	5.0	83	80	0.010	0.780	0.450	0.210	3.2
JAN										
06...	12	0.10	1.0	221	220	0.010	1.60	0.030	0.020	0.37
MAR										
04...	9.3	0.20	1.2	161	160	0.010	0.960	0.020	0.020	0.28
MAY										
05...	--	--	--	--	--	0.010	0.440	0.040	0.040	0.56
JUL										
01...	21	0.10	1.4	277	280	<0.010	<0.100	0.040	0.020	1.6
SEP										
02...	28	0.20	3.2	328	360	0.010	0.340	0.050	0.020	0.35

K Results based on colony count outside the accepted range (non-ideal colony count).

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued
(national stream-quality accounting network station)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)
NOV										
04...	--	1.7	--	--	0.410	0.080	0.070	20	<1	28
06...	0.49	3.6	2.9	0.70	1.80	0.090	0.040	110	1	23
JAN										
06...	--	0.40	--	--	0.020	0.020	0.030	--	--	--
MAR										
04...	--	0.30	--	--	0.020	0.030	<0.010	10	<1	35
MAY										
05...	--	0.60	--	--	0.050	0.020	<0.010	--	--	--
JUL										
01...	--	1.6	--	--	0.230	0.020	0.020	--	--	--
SEP										
02...	--	0.40	--	--	0.130	0.070	0.070	<10	2	36

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV										
04...	<0.5	1	<1	<3	<1	68	1	4	9	<0.1
06...	<0.5	<1	<1	<3	5	120	2	<4	3	0.1
JAN										
06...	--	--	--	--	--	--	--	--	--	--
MAR										
04...	<0.5	<1	<1	<3	3	23	1	5	8	<0.1
MAY										
05...	--	--	--	--	--	--	--	--	--	--
JUL										
01...	--	--	--	--	--	--	--	--	--	--
SEP										
02...	<0.5	<1	<1	<3	2	4	<5	13	2	--

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV										
04...	<10	<1	<1	<1	78	<6	8	312	12400	73
06...	<10	<1	<1	1	41	<6	11	1850	701000	95
JAN										
06...	--	--	--	--	--	--	--	1	4.6	55
MAR										
04...	<10	<1	<1	<1	130	<6	16	3	24	49
MAY										
05...	--	--	--	--	--	--	--	6	26	89
JUL										
01...	--	--	--	--	--	--	--	29	48	84
SEP										
02...	<10	1	<1	<1	170	<6	10	14	19	90

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

LOCATION.--Lat 39°16'25", long 77°32'35", Frederick County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mi downstream from Catoctin Creek (Virginia), 6 mi upstream from Monocacy River, and at mile 159.5.

DRAINAGE AREA.--9,651 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1895 to current year.

REVISED RECORDS.--WSP 192: 1895-1905. WSP 1432: 1899, 1901-2, 1904-5, 1912, 1914(M), 1915, 1917(M), 1918, 1919(M), 1920, 1921-23(M), 1924, 1925-28(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 200.63 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft higher.

REMARKS.--Estimated daily discharges: Dec. 25, 26, Jan. 11-18, 29-31. Records good except those for estimated daily discharges (ice effect), which are fair. Low flow affected slightly from 1913 to July 1981 by Stony River Reservoir (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981, by Jennings Randolph Lake (see station 01595800). Low flow affected extensively at times by run-of-the-river hydroelectric plants. National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE.--91 years, 9,410 ft³/s, 13.24 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480,000 ft³/s, Mar. 19, 1936, gage height, 41.03 ft from rating curve extended above 300,000 ft³/s on the basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow; minimum discharge, 530 ft³/s, Sept. 11, 12, 1966, gage height, 0.27 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 40.2 ft, from floodmarks, discharge, about 460,000 ft³/s from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 7	0330	*309,000	*36.28	Feb. 21	0500	65,000	12.94
Nov. 30	0230	45,200	10.03	Mar. 16	1400	116,000	19.35

Minimum discharge, 1,130 ft³/s, Sept. 20, gage height, 0.65 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1530	3490	39600	6040	4950	16000	7940	6860	4860	2070	1540	1600
2	1570	3340	36000	5950	5390	14400	7530	6840	4470	2140	1590	1690
3	2120	5490	32500	5810	5780	13000	7210	6720	4130	2380	1610	2150
4	1990	15800	27300	5630	6410	12300	6820	6340	3790	2710	1590	2270
5	1970	83100	23600	5580	10100	11900	6620	5980	3580	3730	1610	1940
6	1880	230000	20500	5350	20300	11700	6560	5590	3450	4150	1620	1800
7	1780	253000	18200	4950	23800	11300	6780	5410	3650	3540	1990	1870
8	1670	76100	16800	4530	20400	10900	7140	5300	3780	3250	2080	1760
9	1560	45300	15200	4320	17500	9980	7660	5000	3660	3030	1920	1810
10	1530	34300	13900	3990	15800	9530	7850	4790	4800	2830	1850	1660
11	1540	27100	13000	3900	15400	9800	7580	4610	5010	2610	1830	1530
12	1490	23300	12200	3800	14800	11500	7600	4390	4390	2890	1620	1540
13	1430	20000	11800	3700	13200	15800	7590	4240	3880	2410	1520	1460
14	1490	16900	13200	3600	11300	18400	7260	4120	3630	2240	1450	1390
15	1490	13700	18400	3500	10100	46600	7070	4190	3420	2300	1480	1370
16	1550	12300	18800	3400	9800	110000	8920	4250	3170	2180	1570	1330
17	1480	14100	16400	3300	9570	78400	10200	4290	2970	2090	1440	1210
18	1470	25100	14700	3200	10800	46000	15500	4460	2400	2000	1490	1290
19	1450	18300	13100	3820	22300	32800	20600	4270	2500	1840	1990	1270
20	1460	14100	11400	4500	49500	26000	18900	4350	2550	2080	1790	1170
21	1570	12000	10300	5740	61700	22000	16100	6270	2570	2150	1930	1260
22	2540	11100	9410	6970	49700	18300	14600	12200	2380	2080	2150	1240
23	4740	16500	8970	7780	39800	15300	13000	15400	2160	2080	2230	1330
24	11400	28900	9400	7240	31300	13600	11600	12700	2190	2120	1960	1440
25	12000	25300	8600	6850	26000	12400	10500	10300	2230	2070	1970	1510
26	9340	20100	8000	6960	22200	11600	9400	8510	2160	2050	1970	1490
27	7370	17800	7450	6920	19500	10700	8730	7380	2140	1900	1830	1510
28	5710	23300	7290	6850	17600	9850	8220	6570	2070	1880	1810	1500
29	4830	35600	6970	4900	---	9270	7780	5930	2040	1880	1800	1530
30	4190	44600	6610	4800	---	8800	7290	5470	2090	1840	1660	1540
31	3760	---	6300	4700	---	8360	---	5170	---	1690	1600	---
TOTAL	99900	1170020	475900	158580	565000	656490	290550	197900	96120	74210	54490	46460
MEAN	3223	39000	15350	5115	20180	21180	9685	6384	3204	2394	1758	1549
MAX	12000	253000	39600	7780	61700	110000	20600	15400	5010	4150	2230	2270
MIN	1430	3340	6300	3200	4950	8360	6560	4120	2040	1690	1440	1170
CFSM	.33	4.04	1.59	.53	2.09	2.20	1.00	.66	.33	.25	.18	.16
IN.	.39	4.51	1.83	.61	2.18	2.53	1.12	.76	.37	.29	.21	.18

CAL YR 1985	TOTAL	3787920	MEAN	10380	MAX	253000	MIN	1350	CFSM	1.08	IN	14.60
WTR YR 1986	TOTAL	3885620	MEAN	10650	MAX	253000	MIN	1170	CFSM	1.10	IN	14.98

POTOMAC RIVER BASIN

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1960 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1960 to current year.

REMARKS.--Water temperatures are measured daily in field by local observer at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 33.5°C, Aug. 24, 1964, July 19, 1977; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 2,690 mg/L, Nov. 7, 1985; minimum daily mean, 1 mg/L, on many days most years.

SEDIMENT LOAD: Maximum daily, 1,930,000 tons, Nov. 7, 1985; minimum daily, 2.0 tons on many days during 1964, 1966-69.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum daily, 31.0°C, July 29; minimum daily, 0.0°C, Jan. 2, 14, 15.

SEDIMENT CONCENTRATION: Maximum daily mean, 2,690 mg/L, Nov. 7; minimum daily mean, 1 mg/L, Oct. 2, Sept. 16.

SEDIMENT LOAD: Maximum daily, 1,930,000 tons, Nov. 7; minimum daily, 3.6 tons, Sept. 16.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	
NOV 06...	1730	256000	2630	1820000	40	55	76	
FEB 21...	1205	61400	437	72400	--	28	41	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM
NOV 06...	89	94	98	99	100	100	100	
FEB 21...	55	77	77	83	91	99	100	

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	12.0	9.0	1.0	---	4.0	16.0	18.0	25.0	23.0	29.0	22.0
2	18.0	12.0	---	.0	3.0	4.0	16.0	17.0	24.0	24.0	27.0	20.0
3	18.0	12.0	---	2.0	3.0	4.0	14.0	14.0	20.0	24.0	28.0	20.0
4	17.0	12.0	---	3.0	2.0	5.0	14.0	17.0	21.0	26.0	27.0	22.0
5	17.0	12.0	---	2.0	3.0	6.0	15.0	19.0	22.0	26.0	28.0	23.0
6	17.0	12.0	---	2.0	2.0	4.0	13.0	17.0	25.0	27.0	27.0	24.0
7	17.0	12.0	---	1.0	2.0	---	14.0	19.0	25.0	29.0	27.0	23.0
8	17.0	12.0	---	1.0	3.0	---	14.0	19.0	26.0	29.0	27.0	21.0
9	19.0	12.0	6.0	2.0	3.0	6.0	14.0	18.0	25.0	27.0	28.0	20.0
10	20.0	11.0	6.0	2.0	2.0	6.0	---	17.0	23.0	28.0	29.0	22.0
11	20.0	13.0	6.0	2.0	2.0	7.0	10.0	20.0	25.0	27.0	27.0	21.0
12	16.0	13.0	7.0	2.0	2.0	10.0	13.0	18.0	28.0	28.0	27.0	23.0
13	17.0	12.0	6.0	1.0	2.0	9.0	13.0	18.0	26.0	---	26.0	22.0
14	17.0	13.0	5.0	.0	1.0	10.0	12.0	17.0	24.0	---	26.0	23.0
15	20.0	12.0	5.0	.0	1.0	8.0	12.0	17.0	---	---	25.0	24.0
16	20.0	11.0	5.0	1.0	2.0	8.0	10.0	20.0	---	28.0	25.0	22.0
17	17.0	12.0	4.0	1.0	2.0	8.0	10.0	20.0	17.0	26.0	26.0	---
18	17.0	10.0	4.0	2.0	2.0	7.0	10.0	24.0	18.0	30.0	25.0	20.0
19	19.0	11.0	4.0	---	2.0	10.0	11.0	22.0	23.0	28.0	26.0	20.0
20	18.0	11.0	3.0	---	3.0	8.0	12.0	21.0	25.0	29.0	24.0	21.0
21	15.0	11.0	3.0	---	5.0	7.0	13.0	20.0	24.0	29.0	23.0	23.0
22	14.0	10.0	2.0	---	4.0	7.0	13.0	20.0	27.0	28.0	25.0	21.0
23	15.0	10.0	2.0	---	5.0	9.0	11.0	19.0	25.0	29.0	26.0	21.0
24	15.0	10.0	2.0	---	4.0	9.0	13.0	19.0	25.0	28.0	25.0	23.0
25	15.0	9.0	7.0	---	4.0	10.0	12.0	20.0	23.0	29.0	25.0	23.0
26	15.0	8.0	6.0	---	3.0	11.0	---	19.0	25.0	27.0	26.0	23.0
27	15.0	8.0	5.0	---	4.0	10.0	15.0	19.0	26.0	30.0	25.0	24.0
28	14.0	8.0	2.0	---	3.0	12.0	16.0	19.0	25.0	30.0	21.0	21.0
29	13.0	8.0	2.0	---	---	10.0	17.0	20.0	28.0	31.0	22.0	24.0
30	12.0	8.0	1.0	---	---	15.0	16.0	23.0	27.0	27.0	22.0	23.0
31	12.0	---	1.0	---	---	15.0	---	22.0	---	28.0	24.0	---

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

TOTAL LOAD FOR YEAR: 4657149.1 TONS.

MONONGAHELA RIVER BASIN

03050400 TYGART VALLEY RIVER AT ELKINS, WV

LOCATION.--Lat 38°55'00", long 79°50'43", Randolph County, Hydrologic Unit 05020001, at city water plant, at Elkins, 2.5 mi upstream from gaging station.

DRAINAGE AREA.--268 mi² upstream from water plant: 272 mi² upstream from gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: January 1947 to current year.

REMARKS.--No appreciable inflow between water plant and gaging station except during periods of heavy local rains. During flood periods part of the flow is diverted around the water plant in a flood by-pass channel.

COOPERATION.--Temperature records were furnished by City of Elkins pump station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 33.0°C July 22, 1952; minimum daily, 0.0°C on many days during winter months most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 26.0°C July 23; minimum daily, 1.0°C Jan. 9.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	12.0	12.0	3.0	4.0	4.0	11.0	15.0	18.0	21.0	24.0	19.0
2	16.0	12.0	11.0	3.0	4.0	4.0	12.0	14.0	20.0	21.0	24.0	18.0
3	16.0	12.0	8.0	4.0	5.0	5.0	12.0	14.0	19.0	19.0	24.0	18.0
4	16.0	12.0	8.0	2.0	4.0	4.0	14.0	14.0	20.0	19.0	25.0	18.0
5	16.0	11.0	6.0	2.0	5.0	5.0	15.0	14.0	21.0	20.0	25.0	19.0
6	14.0	11.0	5.0	2.0	5.0	4.0	15.0	15.0	22.0	21.0	23.0	19.0
7	14.0	11.0	5.0	3.0	5.0	5.0	15.0	16.0	21.0	20.0	25.0	19.0
8	14.0	11.0	5.0	3.0	5.0	4.0	15.0	16.0	21.0	21.0	24.0	18.0
9	14.0	10.0	5.0	1.0	4.0	5.0	14.0	17.0	22.0	21.0	24.0	18.0
10	14.0	11.0	5.0	3.0	5.0	5.0	11.0	18.0	21.0	22.0	24.0	18.0
11	15.0	11.0	6.0	3.0	5.0	5.0	10.0	18.0	21.0	22.0	24.0	18.0
12	16.0	11.0	5.0	2.0	4.0	5.0	9.0	19.0	21.0	21.0	23.0	19.0
13	16.0	10.0	3.0	3.0	3.0	5.0	12.0	19.0	21.0	20.0	23.0	19.0
14	17.0	11.0	5.0	2.0	4.0	6.0	11.0	18.0	20.0	21.0	23.0	18.0
15	17.0	13.0	5.0	2.0	4.0	8.0	11.0	18.0	21.0	22.0	25.0	19.0
16	16.0	13.0	4.0	2.0	4.0	7.0	10.0	19.0	21.0	22.0	24.0	19.0
17	15.0	12.0	4.0	2.0	4.0	8.0	10.0	18.0	21.0	24.0	24.0	18.0
18	16.0	12.0	3.0	2.0	4.0	8.0	10.0	18.0	21.0	24.0	23.0	18.0
19	16.0	12.0	3.0	3.0	4.0	10.0	10.0	18.0	21.0	24.0	24.0	19.0
20	15.0	12.0	4.0	2.0	4.0	8.0	11.0	19.0	22.0	24.0	23.0	19.0
21	15.0	11.0	3.0	3.0	5.0	7.0	11.0	18.0	21.0	24.0	23.0	19.0
22	15.0	11.0	3.0	4.0	5.0	8.0	10.0	16.0	21.0	25.0	23.0	19.0
23	15.0	11.0	2.0	4.0	4.0	8.0	10.0	15.0	20.0	26.0	23.0	20.0
24	15.0	10.0	2.0	3.0	5.0	9.0	10.0	18.0	22.0	25.0	22.0	20.0
25	14.0	10.0	2.0	4.0	5.0	8.0	10.0	14.0	21.0	25.0	22.0	20.0
26	15.0	10.0	2.0	4.0	5.0	8.0	10.0	15.0	21.0	25.0	21.0	20.0
27	14.0	10.0	3.0	3.0	6.0	9.0	13.0	15.0	22.0	25.0	22.0	21.0
28	14.0	10.0	3.0	2.0	5.0	9.0	13.0	17.0	21.0	25.0	20.0	21.0
29	14.0	11.0	2.0	2.0	---	9.0	14.0	18.0	19.0	25.0	19.0	21.0
30	13.0	12.0	2.0	2.0	---	9.0	15.0	18.0	21.0	24.0	19.0	21.0
31	12.0	---	3.0	4.0	---	10.0	---	18.0	---	24.0	19.0	---
MEAN	15.0	11.0	4.5	2.5	4.5	6.5	12.0	16.5	21.0	22.5	23.0	19.0
WTR YR 1986	MEAN	13.5		MAX	26.0		MIN	1.0				

MONONGAHELA RIVER BASIN

03050500 TYGART VALLEY RIVER NEAR ELKINS, WV

LOCATION.--Lat 38°55'30", long 79°52'45", Randolph County, Hydrologic Unit 05020001, on left bank 1.4 mi upstream from Leading Creek, 1.5 mi west of Elkins, and at mile 78.3.

DRAINAGE AREA.--272 mi².

PERIOD OF RECORD.--October 1944 to current year. Prior to October 1960, published as Tygart River near Elkins.

GAGE.--Water-stage recorder. Datum of gage is 1,893.95 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Nov. 16, 1944, nonrecording gage and Nov. 16, 1944, to Sept. 30, 1951, water-stage recorder at site 200 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 5 to Dec. 12, Dec. 21, 26-28, 30, 31, Jan. 9, 10, 13-17, and Feb. 15. Records good except those for period of no gage-height record, Nov. 5 to Dec. 12, which is fair, and periods with ice effect, Dec. 21, 26-28, 30, 31, Jan. 9, 10, 13-17, and Feb. 15, which are poor. Slight regulation at times by flood-diversion dam upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--42 years, 543 ft³/s, 27.11 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,500 ft³/s, Nov. 5, 1985, gage height, 22.81 ft, from floodmarks, from rating curve extended above 13,800 ft³/s on basis of slope-area measurement of peak flow; minimum daily discharge, 0.1 ft³/s, Sept. 20-29, 1959; minimum gage height, 1.01 ft, Sept. 26-28, 1959.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	unknown	*23,500	*22.81	Mar. 15	1830	8,460	14.38
Nov. 28	unknown	unknown	unknown	June 29	1615	6,460	12.66
Feb. 4	2400	5,160	11.32	July 4	0130	5,750	11.95

Minimum discharge, 3.7 ft³/s, Oct. 5, gage height, 1.15 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	75	1380	183	272	337	127	808	102	2930	61	81
2	6.1	80	880	183	522	316	120	546	90	4460	63	72
3	5.1	95	620	207	1280	328	113	394	81	5450	48	74
4	6.6	2250	440	235	4270	311	107	308	72	3370	41	80
5	4.6	16000	370	260	3680	290	100	260	75	853	33	75
6	17	10000	430	242	1810	288	125	226	107	480	20	65
7	20	2900	440	215	1210	285	499	217	325	330	42	61
8	16	1380	400	187	906	213	621	213	610	233	24	55
9	14	860	420	150	694	359	556	203	380	228	52	45
10	12	650	480	165	567	1600	726	175	230	842	59	38
11	11	480	560	183	492	3720	710	155	169	414	66	34
12	9.3	430	1280	163	383	2380	1020	142	372	394	69	34
13	7.2	370	2450	145	294	1160	1420	140	367	308	69	29
14	7.2	540	2260	125	230	2170	944	149	242	354	45	25
15	7.9	590	900	115	225	7400	650	134	175	285	45	24
16	6.1	500	460	110	253	3930	706	116	230	205	38	27
17	7.2	560	414	130	1380	1310	786	100	173	163	54	24
18	30	600	460	215	4710	795	865	120	116	129	290	22
19	27	480	288	772	2930	595	985	278	89	107	123	45
20	863	390	262	2300	1640	473	796	1450	129	94	80	66
21	2010	320	230	1280	1130	364	654	1460	211	118	37	69
22	1260	870	205	989	1140	294	654	882	138	123	29	48
23	544	2500	272	1510	1540	265	721	570	94	104	66	46
24	291	1360	253	1070	1190	237	662	397	262	82	492	102
25	219	900	224	713	830	209	636	294	724	68	316	68
26	197	630	155	613	587	187	553	233	283	100	167	61
27	157	1920	165	516	519	183	448	209	181	167	132	901
28	128	6100	180	290	414	179	367	219	1780	129	193	1200
29	105	7800	169	283	---	161	1210	183	5360	187	219	448
30	89	3900	155	318	---	147	1390	146	1880	179	153	235
31	84	---	145	258	---	136	---	122	---	68	104	---
TOTAL	6168.5	65530	17347	14125	35098	30622	19271	10849	15047	22954	3230	4154
MEAN	199	2184	560	456	1254	988	642	350	502	740	104	138
MAX	2010	16000	2450	2300	4710	7400	1420	1460	5360	5450	492	1200
MIN	4.6	75	145	110	225	136	100	100	72	68	20	22
CFSM	.73	8.03	2.06	1.68	4.61	3.63	2.36	1.29	1.85	2.72	.38	.51
IN.	.84	8.96	2.37	1.93	4.80	4.19	2.64	1.48	2.06	3.14	.44	.57
CAL YR 1985	TOTAL	226255.9	MEAN 620	MAX 16000	MIN 2.9	CFSM 2.28	IN 30.94					
WTR YR 1986	TOTAL	244395.5	MEAN 670	MAX 16000	MIN 4.6	CFSM 2.46	IN 33.42					

MONONGAHELA RIVER BASIN

03051000 TYGART VALLEY RIVER AT BELINGTON, WV

LOCATION.--Lat 39°01'45", long 79°56'10", Barbour County, Hydrologic Unit 05020001, on left bank opposite mouth of Mill Creek, 0.2 mi downstream from highway bridge at Belington, and mile 61.5.

DRAINAGE AREA.--408 mi², excluding that of Mill Creek.

PERIOD OF RECORD.--June 1907 to current year. Prior to October 1960, published as Tygart River at Belington.

REVISED RECORDS.--WSP 823: Drainage area. WSP 953: 1933(M), 1941(M). WSP 1335: 1912, 1914-15, 1916(M), 1921-22(M), 1925(M), 1928, 1933. WSP 1385: 1909(M), 1913-15(M), 1917-18, 1924(M), 1928(M), 1932, 1934, 1936, 1938-39, 1948-49.

GAGE.--Water-stage recorder. Datum of gage is 1,679.49 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Apr. 25, 1939, nonrecording gage at site 0.2 mi upstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 25 to Jan. 2, Jan. 6-18, 30, 31, and Feb. 15. Records good except these periods with ice effect, which are poor. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--79 years, 817 ft³/s, 27.19 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,500 ft³/s, Nov. 5, 1985, gage height, 23.65 ft, from floodmarks, from rating curve extended above 18,700 ft³/s; minimum, 0.1 ft³/s, Sept. 13, 1930, gage height, 1.56 ft, site then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1888, reached a stage of 21.7 ft, former site, from floodmarks, discharge, 21,200 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	1400	*29,500	a*23.65	Mar. 11	1400	6,540	11.12
Nov. 28	2000	11,800	15.07	Mar. 15	2200	11,400	14.79
Feb. 4	2000	8,110	12.37	June 29	1800	8,370	12.57
Feb. 18	1200	8,360	12.56	July 2	2000	8,970	13.03

a From floodmarks.

Minimum discharge, 8.7 ft³/s, Oct. 1, gage height, 2.04 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	99	2020	310	425	530	189	1270	137	4200	84	124
2	17	94	1300	390	933	477	177	858	117	7680	88	104
3	18	131	911	416	2370	497	166	615	105	7470	72	99
4	18	4100	644	447	6670	476	155	463	93	5000	59	104
5	16	27400	543	464	6220	443	144	383	81	1390	53	127
6	16	16400	633	420	2940	433	179	333	90	734	49	174
7	14	4240	640	380	2020	431	670	312	280	475	41	114
8	30	2030	578	295	1580	337	993	347	720	339	66	94
9	29	1280	610	250	1230	474	914	303	534	309	70	74
10	24	878	720	260	962	2490	1320	265	338	1180	76	61
11	23	672	807	280	834	6110	1280	227	221	749	78	52
12	22	568	1880	265	645	4000	1730	202	302	508	99	50
13	19	506	4750	245	484	1940	2330	189	478	456	79	49
14	21	802	4670	210	412	2690	1620	217	310	749	74	44
15	25	863	2240	190	400	10300	1080	201	220	565	53	40
16	27	700	1360	180	429	6990	1000	168	195	347	50	38
17	44	832	967	200	2080	2150	1200	145	237	260	53	37
18	27	890	722	270	8050	1300	1450	130	143	198	199	34
19	38	726	500	1030	5260	951	1510	310	105	154	173	52
20	719	570	415	3200	3120	749	1290	1910	138	137	98	107
21	3640	465	392	2180	2100	573	1030	2280	322	172	72	120
22	2280	1280	328	1530	2110	451	1200	1410	209	218	48	96
23	1080	4010	354	2360	2290	393	1570	902	128	151	39	80
24	516	2000	391	1820	1890	358	1300	614	158	111	465	232
25	375	1180	315	1220	1350	314	1120	441	780	104	505	178
26	363	893	240	1030	957	281	946	340	409	108	265	127
27	264	2880	270	900	835	275	745	289	219	202	186	1740
28	201	9120	290	534	659	271	593	298	2020	197	283	2460
29	156	11500	275	493	---	244	1340	263	7460	232	320	1020
30	125	5810	245	450	---	217	2120	202	3520	371	246	455
31	111	---	235	410	---	203	---	163	---	197	167	---
TOTAL	10269	102919	30245	22629	59255	47348	31361	16050	20069	34963	4210	8086
MEAN	331	3431	976	730	2116	1527	1045	518	669	1128	136	270
MAX	3640	27400	4750	3200	8050	10300	2330	2280	7460	7680	505	2460
MIN	11	94	235	180	400	203	144	130	81	104	39	34
CFSM	.81	8.41	2.39	1.79	5.19	3.74	2.56	1.27	1.64	2.77	.33	.66
IN.	.94	9.38	2.76	2.06	5.40	4.32	2.86	1.46	1.83	3.19	.38	.74

CAL YR 1985	TOTAL	351425.6	MEAN	963	MAX	27400	MIN	8.2	CFSM	2.36	IN	32.04
WTR YR 1986	TOTAL	387404.0	MEAN	1061	MAX	27400	MIN	11	CFSM	2.60	IN	35.32

MONONGAHELA RIVER BASIN

03052500 SAND RUN NEAR BUCKHANNON, WV

LOCATION.--Lat $38^{\circ} 57' 50''$, long $80^{\circ} 09' 10''$, Upshur County, Hydrologic Unit 05020001, on right bank 300 ft downstream from Left Fork, 4.5 mi southeast of Buckhannon, and at mile 6.0.

DRAINAGE AREA.--14.5 mi².

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 1725: 1955(M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,530 ft, above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 4, 1983, at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: Oct. 1-18, Dec. 19 to Jan. 23, Jan. 26-31, Feb. 14, 15, June 29 to July 7, July 20-29, and Sept. 27-30. Records good except for periods of no gage-height record Oct. 1-18, Dec. 19 to Jan. 23, June 29 to July 7, July 20-29, and Sept. 27-30, and periods with ice effect, Jan. 26-31 and Feb. 14, 15, which are poor.

AVERAGE DISCHARGE.--40 years, 27.1 ft³/s, 25.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,200 ft³/s, Nov. 4, 1985, gage height, 8.34 ft, from rating curve extended above 1,560 ft³/s; no flow for several days in 1951-56, 1964-66, and parts of July 19, 20, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 4	2345	*3,200	*8.34	Feb. 17	1700	1,670	6.58
Nov. 27	1445	436	4.54	Mar. 15	0045	695	5.09
Nov. 28	1800	1,130	5.81	June 28	1345	500	4.70
Dec. 13	1045	428	4.52	July 3	unknown	818	a5.33
Feb. 4	0800	464	4.61	Sept. 23	2400	940	5.32

a From crest-stage gage.

No flow parts of July 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	2.9	43	10	22	20	6.8	18	4.0	150	2.7	4.1
2	.28	4.1	31	12	91	19	6.5	15	3.4	240	2.4	4.5
3	.27	6.3	21	14	107	20	6.2	12	3.4	90	2.2	3.9
4	.35	920	18	15	312	19	6.0	11	2.7	29	2.0	3.6
5	.40	1220	19	16	140	19	5.8	9.8	2.4	10	1.7	3.4
6	.30	171	28	15	74	23	11	9.0	2.5	3.7	3.8	3.4
7	.34	76	26	13	70	22	27	9.0	3.6	1.1	2.4	2.6
8	.50	44	25	10	58	23	23	8.5	3.2	.55	7.6	2.3
9	.54	28	26	8.2	40	46	28	6.8	3.0	13	5.7	2.1
10	.49	21	24	8.4	29	139	42	5.8	2.2	22	3.2	1.8
11	.44	18	28	9.4	26	200	45	5.2	2.1	5.2	4.7	1.6
12	.41	15	132	9.2	20	77	42	4.9	5.0	2.7	3.2	3.0
13	.38	16	273	8.4	18	48	30	5.2	3.1	1.5	2.3	2.7
14	.39	18	130	7.2	15	122	22	5.5	2.2	1.2	2.0	1.8
15	.43	16	54	6.5	16	304	20	4.8	1.6	.60	1.7	1.6
16	.52	17	32	6.0	18	85	19	4.0	1.3	.25	3.0	1.4
17	.80	17	24	6.4	460	44	20	4.3	1.2	.12	6.5	1.3
18	.66	15	20	7.0	404	29	24	4.2	1.0	.02	3.4	1.2
19	.50	14	18	14	154	22	24	14	.75	.00	2.3	2.4
20	118	12	13	58	107	18	22	90	4.4	5.0	2.0	2.6
21	92	11	14	50	99	14	24	30	3.2	28	2.0	2.3
22	36	99	11	47	100	12	125	19	1.6	22	3.0	2.0
23	18	85	12	80	59	11	111	14	1.3	11	5.2	120
24	13	38	12	58	42	10	56	11	4.4	7.5	70	299
25	9.5	24	11	41	31	9.8	36	8.8	2.6	6.0	12	55
26	6.9	22	8.0	38	27	9.0	26	7.0	1.4	5.0	6.3	24
27	5.5	243	8.8	34	26	9.8	20	7.2	1.0	6.0	8.7	15
28	4.7	780	9.8	27	22	9.0	16	6.8	151	5.2	13	12
29	3.9	304	9.3	20	---	8.2	26	5.2	58	4.8	9.4	7.0
30	3.6	82	8.0	17	---	7.8	20	4.8	36	4.3	6.0	5.0
31	3.2	---	8.2	15	---	7.2	---	4.4	---	3.2	4.5	---
TOTAL	322.56	4339.3	1097.1	680.7	2587	1406.8	890.3	365.2	313.55	678.94	204.9	592.6
MEAN	10.4	145	35.4	22.0	92.4	45.4	29.7	11.8	10.5	21.9	6.61	19.8
MAX	118	1220	273	80	460	304	125	90	151	240	70	299
MIN	.26	2.9	8.0	6.0	15	7.2	5.8	4.0	.75	.00	1.7	1.2
CFSM	.72	10.0	2.44	1.52	6.37	3.13	2.05	.81	.72	1.51	.46	1.37
IN.	.83	11.13	2.81	1.75	6.64	3.61	2.28	.94	.80	1.74	.53	1.52
CAL YR 1985	TOTAL	12035.47	MEAN	33.0	MAX	1220	MIN	.25	CFSM	2.28	IN	30.88
WTR YR 1986	TOTAL	13478.95	MEAN	36.9	MAX	1220	MIN	.00	CFSM	2.55	IN	34.58

MONONGAHELA RIVER BASIN

03053500 BUCKHANNON RIVER AT HALL, WV

LOCATION.--Lat 39°03'05", Long 80°06'50", Barbour County, Hydrologic Unit 05020001, on right bank 0.2 mi upstream from highway bridge at Hall, 1.0 mi upstream from Pecks Run, and at mile 7.5.

DRAINAGE AREA.--277 mi².

PERIOD OF RECORD.--June 1907 to May 1909 (gage heights only), April 1915 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 783: 1918(M).

GAGE.--Water-stage recorder. Datum of gage is 1,369.15 ft Baltimore & Ohio RR datum. June 1907 to May 25, 1909, nonrecording gage at site 0.2 mi downstream at datum 4.12 ft lower. Apr. 15, 1915, to June 8, 1939, nonrecording gage at site 500 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Dec. 21, 22, 26-31, Jan. 1-4, 6-12, 14-17, 29-31, and Feb. 13-15. Records good except these periods with ice effect, which are poor. Some regulation at low flow from mine pumpage above station.

AVERAGE DISCHARGE.--71 years, 598 ft³/s, 29.32 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s, Nov. 5, 1985, gage height, 16.88 ft, from floodmarks, from rating curve extended above 13,000 ft³/s on basis of slope-area measurement; minimum, 0.2 ft³/s, Oct. 23, 27, 1930, gage height, 1.30 ft, site then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	1830	*15,000	a*16.88	Feb. 18	0930	7,440	11.13
Nov. 29	1130	10,100	13.05	Mar. 15	1300	6,170	10.22
Feb. 4	2015	5,450	9.71	July 3	1300	7,020	10.83

a From floodmarks

Minimum discharge, 5.2 ft³/s, Oct. 1, gage height, 3.59 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	86	1630	270	427	534	172	501	86	2030	63	94
2	5.4	88	1080	330	976	482	159	439	78	3890	50	87
3	5.4	97	782	360	1720	492	150	361	72	6430	44	81
4	7.6	2740	582	385	4130	500	142	304	68	3050	41	82
5	8.0	14500	498	409	4100	516	134	266	64	1040	38	81
6	6.1	10800	614	360	2470	557	143	238	62	579	42	77
7	6.5	3680	672	330	1830	631	582	225	65	370	51	74
8	10	1640	608	250	1500	485	869	219	89	263	49	65
9	11	1090	582	210	1130	574	741	211	181	233	113	53
10	9.6	782	569	220	871	1510	892	188	158	1220	150	43
11	8.4	594	608	245	762	3730	891	177	106	935	151	38
12	8.0	515	1660	235	622	2830	881	167	132	791	131	42
13	7.6	460	3480	226	450	1580	846	118	199	614	107	49
14	7.6	653	3770	190	400	1560	772	90	136	617	76	42
15	8.0	679	2010	170	410	5390	641	106	106	590	57	38
16	11	569	1190	155	495	3290	572	113	88	406	46	36
17	21	614	845	165	1930	1590	535	101	79	294	47	35
18	28	575	634	189	6940	1040	573	100	65	225	52	35
19	27	493	432	363	4250	778	618	178	59	183	48	118
20	282	427	327	1490	2590	610	612	503	80	149	42	89
21	2120	365	315	1320	1710	486	612	621	96	719	43	54
22	1120	920	275	1180	1680	392	1100	437	87	581	46	46
23	594	2620	291	2000	1570	336	1910	345	74	287	48	47
24	341	1570	313	1560	1290	303	1440	283	76	192	448	238
25	250	968	288	1110	1070	270	1090	232	147	145	375	186
26	202	733	205	1030	833	242	893	190	144	118	172	141
27	174	2670	230	1010	746	235	766	165	91	123	111	1010
28	141	6950	250	715	648	240	614	156	1060	119	161	2230
29	119	9530	235	550	---	217	667	146	2880	115	222	915
30	101	4570	210	450	---	196	611	117	1330	93	170	416
31	92	---	205	400	---	183	---	97	---	75	117	---
TOTAL	5737.4	71978	25390	17877	47550	31779	20628	7394	7958	26476	3311	6542
MEAN	185	2399	819	577	1698	1025	688	239	265	854	107	218
MAX	2120	14500	3770	2000	6940	5390	1910	621	2880	6430	448	2230
MIN	5.2	86	205	155	400	183	134	90	59	75	38	35
CFSM	.67	8.66	2.96	2.08	6.13	3.70	2.48	.86	.96	3.08	.39	.79
IN.	.77	9.67	3.41	2.40	6.39	4.27	2.77	.99	1.07	3.56	.44	.88

CAL YR 1985	TOTAL	246901.8	MEAN 676	MAX 14500	MIN 4.9	CFSM 2.44	IN 33.16
WTR YR 1986	TOTAL	272620.4	MEAN 747	MAX 14500	MIN 5.2	CFSM 2.70	IN 36.61

MONONGAHELA RIVER BASIN

03054500 TYGART VALLEY RIVER AT PHILIPPI, WV

LOCATION.--Lat 39°09'00", long 80°02'25", Barbour County, Hydrologic Unit 05020001, on right bank at Philippi, 0.2 mi downstream from Anglins Run, 5.0 mi downstream from Buckhannon River, and at mile 44.9.

DRAINAGE AREA.--916 mi².

PERIOD OF RECORD.--April 1940 to current year. Prior to October 1960, published as Tygart River at Philippi.

GAGE.--Water-stage recorder. Datum of gage is 1,280.55 ft above National Geodetic Vertical Datum of 1929. Prior to May 23, 1940, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 21, 22, 26-29, Jan. 4-15, 29-31, and Feb. 13-16. Records good except these periods with ice effect, which are poor. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--46 years, 1,883 ft³/s, 27.92 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,000 ft³/s, Nov. 5, 1985, gage height, 31.83 ft, from floodmarks, from rating curve extended above 41,000 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 4.9 ft³/s, Oct. 10-12, 21, 1953; minimum gage height, 0.92 ft Sept. 9, 10, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 25, 1912, reached a stage of 27.3 ft, read on National Weather Service gage 0.2 mi downstream, or about 26 ft, present site and datum, discharge, about 37,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 13,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	1000	*61,000	a*31.83	Mar. 11	1500	14,600	13.33
Nov. 29	0200	30,900	21.50	Mar. 15	1000	21,500	17.07
Dec. 13	2400	14,000	13.03	June 29	1400	13,600	12.74
Feb. 4	1800	17,900	15.23	July 3	0600	20,200	16.38
Feb. 18	0700	20,300	16.46				

a From floodmarks.

Minimum discharge, 14 ft³/s, Oct. 1, gage height, 1.23 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	250	4890	810	1250	1490	497	2360	295	7780	255	271
2	18	243	3120	1030	2280	1340	460	1840	263	15800	184	230
3	22	260	2240	1090	5050	1360	436	1450	234	18300	184	217
4	28	5560	1710	1100	14100	1350	415	1160	223	10200	151	220
5	31	50900	1470	1120	14200	1320	390	960	202	3250	128	244
6	31	32200	1680	1020	7460	1340	410	810	202	1810	123	275
7	30	11700	1800	940	5090	1440	1450	768	339	1210	128	241
8	36	4940	1620	670	4040	1140	2430	768	920	840	126	193
9	41	3130	1600	590	3110	1320	2240	704	1030	728	196	166
10	51	2230	1710	620	2460	4330	2880	616	744	2630	307	136
11	46	1750	1850	680	2160	12800	2810	518	466	2300	283	119
12	37	1540	3930	640	1780	9530	3210	466	448	1740	287	117
13	34	1420	10700	590	1300	4740	3810	410	810	1530	267	119
14	30	1900	11800	500	1100	4480	3070	395	584	1840	214	115
15	31	2050	5880	450	1150	20000	2320	395	415	1810	163	104
16	40	1730	3400	466	1200	14200	2050	375	327	1200	136	98
17	42	1840	2420	484	4030	5090	2150	331	371	820	142	89
18	79	1880	1910	608	19700	3150	2450	307	287	600	160	85
19	76	1620	1380	1430	13700	2360	2550	460	220	448	319	106
20	262	1390	1090	5880	7990	1910	2360	2320	234	371	208	224
21	6880	1170	950	4710	5010	1550	2110	3390	466	810	178	248
22	4560	2490	770	3430	4860	1270	2720	2270	385	1120	163	196
23	2460	8570	930	5350	4760	1090	4450	1630	279	592	130	169
24	1280	4750	1060	4470	4080	980	3660	1260	255	410	776	640
25	871	2830	910	3100	3150	850	2930	950	970	331	1300	546
26	728	2170	580	2700	2390	752	2480	720	768	315	608	357
27	575	7120	630	2540	2100	720	2070	592	405	344	366	3210
28	447	21500	700	1800	1810	728	1690	568	3130	380	460	6750
29	363	26700	710	1400	---	656	2250	525	12600	357	648	3040
30	304	14400	648	1250	---	584	3350	415	6290	560	518	1430
31	269	---	616	1130	---	539	---	339	---	375	357	---
TOTAL	19716	220233	74704	52598	141310	104409	66098	30072	34162	80801	9465	19955
MEAN	636	7341	2410	1697	5047	3368	2203	970	1139	2606	305	665
MAX	6880	50900	11800	5880	19700	20000	4450	3390	12600	18300	1300	6750
MIN	14	243	580	450	1100	539	390	307	202	315	123	85
CFSM	.69	8.01	2.63	1.85	5.51	3.68	2.41	1.06	1.24	2.85	.33	.73
IN.	.80	8.94	3.03	2.14	5.74	4.24	2.68	1.22	1.39	3.28	.38	.81

CAL YR 1985	TOTAL	779629	MEAN	2136	MAX	50900	MIN	14	CFSM	2.33	IN	31.66
WTR YR 1986	TOTAL	853523	MEAN	2338	MAX	50900	MIN	14	CFSM	2.55	IN	34.66

MONONGAHELA RIVER BASIN

03056250 THREE FORK CREEK NEAR GRAFTON, WV

LOCATION.--Lat 39°20'13", long 79°59'36", Taylor County, Hydrologic Unit 05020001, on right bank 20 ft downstream from bridge on State Secondary Route 50/9, 1.4 mi east of Grafton, and at mile 1.8.

DRAINAGE AREA.--97.4 mi².

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,000.00 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 20, 21, 23-31, Jan. 1, 9, 10, 29-31, and Feb. 14, 15. Records good except these periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft³/s, Nov. 5, 1985, gage height 20.13 ft, from floodmarks, from rating curve extended above 10,000 ft³/s on basis of slope-area measurement of peak flow; minimum 1.9 ft³/s, Oct. 27 and 28, 1984, gage height 1.34 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and minimum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	0230	*12,000	a*20.13	Feb. 4	1730	3,610	11.44
Nov. 28	1930	2,750	10.16	Feb. 17	2100	3,320	11.03

a From floodmarks.

Minimum discharge, 2.1 ft³/s, Oct. 1, gage height, 1.36 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	12	379	80	140	135	57	131	35	87	49	11
2	3.3	13	279	83	589	128	54	119	32	147	58	11
3	4.9	18	191	95	848	128	50	98	30	266	70	10
4	8.0	1450	148	108	2540	129	48	83	24	186	42	11
5	7.7	5200	133	121	1840	127	47	75	24	171	31	25
6	7.7	935	159	117	948	136	54	71	32	164	26	29
7	5.8	495	147	96	601	132	85	93	28	154	30	20
8	4.2	305	142	74	523	96	80	85	23	133	75	14
9	3.4	203	153	70	385	167	107	69	22	264	60	10
10	3.1	153	160	75	299	679	201	61	19	411	49	8.3
11	2.4	167	163	86	255	826	239	54	18	171	95	7.3
12	2.7	246	350	73	195	484	291	50	25	143	61	8.3
13	2.9	388	556	69	145	440	228	49	38	176	42	10
14	2.9	523	619	61	115	622	174	60	27	357	33	9.3
15	3.7	442	375	60	120	1410	149	51	21	176	27	7.3
16	11	411	269	55	132	661	133	44	19	104	25	5.8
17	8.9	489	202	56	1060	403	133	39	24	74	25	4.3
18	8.2	329	152	76	2150	286	150	42	25	71	25	3.1
19	6.2	229	90	161	1330	241	140	144	17	53	21	4.8
20	9.4	174	80	547	962	189	135	447	49	77	17	8.0
21	145	140	85	360	675	143	153	240	61	128	19	10
22	80	626	89	322	585	124	266	149	41	74	23	8.3
23	44	625	95	423	421	115	343	114	27	49	24	6.4
24	34	356	100	352	326	105	266	99	21	56	36	5.8
25	58	244	88	291	255	89	209	75	17	46	27	7.0
26	38	227	74	316	210	81	170	60	12	39	20	15
27	26	992	80	308	198	86	141	58	8.3	49	17	63
28	20	2250	85	214	155	77	121	64	34	47	23	78
29	17	1360	78	170	---	68	163	51	92	197	27	38
30	14	633	74	140	---	64	140	42	91	125	19	24
31	13	---	70	125	---	61	---	41	---	71	14	---
TOTAL	597.6	19635	5665	5184	18002	8432	4527	2858	936.3	4266	1110	473.0
MEAN	19.3	655	183	167	643	272	151	92.2	31.2	138	35.8	15.8
MAX	145	5200	619	547	2540	1410	343	447	92	411	95	78
MIN	2.2	12	70	55	115	61	47	39	8.3	39	14	3.1
CFSM	.20	6.73	1.88	1.72	6.60	2.79	1.55	.95	.32	1.42	.37	.16
IN.	.23	7.50	2.16	1.98	6.88	3.22	1.73	1.09	.36	1.63	.42	.18

CAL YR 1985	TOTAL	72506.9	MEAN 199	MAX 5200	MIN 2.1	CFSM 2.04	IN 27.69
WTR YR 1986	TOTAL	71685.9	MEAN 196	MAX 5200	MIN 2.2	CFSM 2.01	IN 27.38

MONONGAHELA RIVER BASIN

03057000 TYGART VALLEY RIVER AT COLFAX, WV

LOCATION.--Lat 39°26'15", Long 80°07'55", Marion County, Hydrologic Unit 05020001 on right bank at highway bridge at Colfax, 300 ft upstream from Guysses Run, and at mile 6.0. Records include flow of Guysses Run.

DRAINAGE AREA.--1,366 mi², including that of Guysses Run.

PERIOD OF RECORD.--May 1939 to current year. Prior to October 1960, published as Tygart River at Colfax.

REVISED RECORDS.--WSP 1083: 1942(M), WSP 1335: 1941.

GAGE.--Water-stage recorder. Datum of gage is 856.27 ft above National Geodetic Vertical Datum of 1929, supplementary adjustment of 1944. Formerly published as 855.49 ft Baltimore & Ohio RR datum. Since Jan. 19, 1945, auxiliary water-stage recorder at Fairmont waterworks, 5.7 mi downstream from base gage, at datum 856.99 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records good. Flow regulated by Tygart Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years, 2,671 ft³/s, 26.55 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,700 ft³/s, Nov. 5, 1985, gage height, 18.89 ft; maximum gage height, 19.77 ft, Mar. 5, 1963, backwater from West Fork River; minimum discharge, 94 ft³/s, July 3, 1946; minimum daily, 129 ft³/s, May 5-7, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1888 reached a stage of 39.6 ft at site 1,100 ft downstream, present datum, from information by local resident. The stage on that day was probably affected by backwater from West Fork River.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,700 ft³/s, Nov. 5, gage height, 18.89 ft; minimum, 205 ft³/s, Aug. 13, gage height, 3.37 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	498	719	18900	1060	2030	4920	639	4700	382	7830	951	619
2	499	729	17700	1060	2690	3750	517	3760	374	9690	909	683
3	489	761	14100	1080	3350	3090	509	1660	368	14200	741	883
4	489	3820	9510	1110	6290	2890	506	1490	362	15300	624	879
5	485	24900	8090	1140	7820	2140	506	1010	365	15300	378	892
6	479	22000	5710	1130	6680	2170	518	1010	370	8960	364	895
7	475	20100	4770	1330	6310	2170	567	1050	374	4880	380	879
8	473	19600	4870	2040	9750	2080	565	1030	370	2380	475	871
9	469	18600	5170	1980	9220	2150	634	1010	381	1000	438	861
10	467	17600	5070	1760	8750	2790	813	993	710	2360	406	857
11	465	16700	5000	1020	8380	4360	893	940	929	4590	474	852
12	462	14100	5150	996	7930	5340	943	701	942	3220	339	860
13	460	10100	5600	999	7460	3430	903	636	947	2730	279	846
14	464	6910	6190	985	6980	3920	838	427	935	2150	357	840
15	462	4870	5870	996	6090	6210	819	417	887	2180	353	835
16	457	4700	6930	997	5100	6780	767	405	655	2620	353	825
17	456	3790	10500	895	5670	12500	931	399	665	1540	358	821
18	451	1700	9930	777	8770	14000	2670	392	654	957	351	819
19	450	8720	9300	952	6600	9660	3020	556	589	699	344	824
20	481	1110	8710	2130	7240	10100	3020	1040	390	718	336	815
21	983	2470	7530	3250	10700	9540	3060	1830	392	851	340	810
22	2540	5320	5170	5640	11400	8890	3220	4820	356	1110	339	777
23	2520	3100	4200	7530	10800	7570	3400	4450	356	1580	345	568
24	2520	1490	3380	7880	11100	5660	2970	2600	342	1310	380	585
25	2520	1300	2090	7480	11400	4970	1850	1380	336	672	349	797
26	2030	1860	1690	6290	10600	2420	1790	724	332	664	354	764
27	1180	4660	1080	3710	9130	1020	1750	722	356	660	622	907
28	751	7890	1090	4130	6840	897	2060	728	819	664	633	1190
29	735	11800	1060	3600	---	882	2800	706	2000	871	631	4060
30	723	18600	1050	2750	---	849	3680	690	7020	1100	625	5630
31	723	---	1040	2030	---	678	---	622	---	989	622	---
TOTAL	26656	260019	196450	78727	215080	147826	47158	42898	23958	113775	14450	32744
MEAN	860	8667	6337	2540	7681	4769	1572	1384	799	3670	466	1091
MAX	2540	24900	18900	7880	11400	14000	3680	4820	7020	15300	951	5630
MIN	450	719	1040	777	2030	678	506	392	332	660	279	568
CAL YR 1985	TOTAL	1114576	MEAN	3054	MAX	24900	MIN	287				
WTR YR 1986	TOTAL	1199741	MEAN	3287	MAX	24900	MIN	279				

MONONGAHELA RIVER BASIN

03057300 WEST FORK RIVER AT WALKERSVILLE, WV

LOCATION.--Lat $38^{\circ}52'07''$ (corrected), long $80^{\circ}27'29''$, Lewis County, Hydrologic Unit 05020002, on left bank at downstream side of highway bridge on Secondary Route 44, in Walkersville, 100 ft downstream from Right Fork, and at mile 95.3.

DRAINAGE AREA.--28.9 mi².

PERIOD OF RECORD.--August 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,070.64 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 6 to Dec. 5, Dec. 23-25, 27-29, 31, Jan. 1-11, 27-31, Feb. 1, 13-15, and Apr. 28 to May 7. Records good except those for periods of estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,390 ft³/s, Nov. 4, 1985, gage height, 17.87 ft; minimum, no flow several days in September and October 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 770 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 4	unknown	*3,390	a*17.87	Mar. 14	2345	968	10.97
Feb. 4	0715	808	10.29	July 2	1015	1,280	12.12
Feb. 17	1700	1,740	13.65				

a From floodmarks.

No flow several days in October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.1	180	16	36	58	10	22	.80	83	1.4	5.6
2	.00	2.4	70	18	190	56	9.6	19	.95	670	.95	8.0
3	.00	15	38	19	153	62	9.1	16	1.5	269	3.0	4.9
4	.00	1490	28	18	573	77	8.9	14	.88	50	1.1	4.9
5	.00	1290	31	17	239	92	8.5	13	.65	22	.70	8.9
6	.00	294	83	14	130	108	115	11	1.0	12	.50	6.4
7	.00	160	79	10	171	107	315	9.6	2.1	7.6	1.4	3.9
8	.00	100	61	9.0	139	72	99	9.1	1.9	5.0	76	3.2
9	.00	50	49	9.2	87	90	61	7.0	1.9	37	34	2.2
10	.00	35	40	9.5	63	168	57	5.6	.70	242	14	1.6
11	.00	26	37	10	56	343	57	4.6	.47	66	18	2.3
12	.00	22	223	10	45	127	48	3.9	.55	49	11	9.3
13	.00	28	453	10	41	98	37	3.9	.60	26	6.6	9.3
14	.00	32	286	8.3	39	287	29	4.6	.60	40	4.2	6.2
15	.02	36	101	7.6	43	549	26	3.9	.41	20	3.0	4.9
16	.15	30	64	6.4	50	160	27	3.0	.28	12	10	4.4
17	.05	28	46	7.4	688	85	29	2.3	.18	9.1	24	4.7
18	.19	27	31	11	575	58	44	6.8	.09	6.4	13	5.6
19	.42	25	18	93	249	46	42	4.6	.04	4.4	8.0	11
20	240	21	18	282	168	34	37	11	.44	8.7	5.6	12
21	243	18	17	123	136	24	50	9.1	2.2	110	7.2	9.6
22	56	130	13	301	148	20	319	6.8	.75	24	7.8	8.5
23	29	290	14	281	100	18	236	5.2	.50	11	7.0	8.9
24	17	150	15	128	77	17	101	4.1	2.6	7.4	50	10
25	13	60	14	92	65	14	67	2.9	2.3	4.7	19	11
26	8.4	40	12	126	63	13	53	2.2	.75	7.0	10	12
27	6.0	200	10	85	66	15	39	2.2	.38	26	18	214
28	4.6	600	11	58	62	13	32	2.9	112	8.7	36	213
29	3.6	700	12	45	---	12	28	2.1	92	6.4	19	43
30	3.1	510	12	35	---	11	26	1.4	17	4.2	11	20
31	2.4	---	14	27	---	11	---	1.0	---	2.3	7.0	---
TOTAL	626.93	6411.5	2080	1886.4	4452	2845	2020.1	214.8	246.52	1850.9	428.45	669.3
MEAN	20.2	214	67.1	60.9	159	91.8	67.3	6.93	8.22	59.7	13.8	22.3
MAX	243	1490	453	301	688	549	319	22	112	670	76	214
MIN	.00	2.1	10	6.4	36	11	8.5	1.0	.04	2.3	.50	1.6
CFSM	.70	7.41	2.32	2.11	5.50	3.18	2.33	.24	.28	2.07	.48	.77
IN.	.81	8.25	2.68	2.43	5.73	3.66	2.60	.28	.32	2.38	.55	.86

CAL YR 1985	TOTAL	19090.20	MEAN	52.3	MAX	1490	MIN	.00	CFSM	1.81	IN	24.57
WTR YR 1986	TOTAL	23731.90	MEAN	65.0	MAX	1490	MIN	.00	CFSM	2.25	IN	30.55

MONONGAHELA RIVER BASIN

03058006 WEST FORK RIVER AT BEN DALE, WV
(Formerly published as 03058000 West Fork River at Brownsville)

LOCATION.--Lat 39°00'53", long 80°28'39", Lewis County, Hydrologic Unit 05020002, on downstream side of W. Va. Route 38/3 highway bridge at Ben Dale, 2.0 mi south of Weston, and at mile 69.6. Prior to Oct. 1, 1984, at site 1.4 mi upstream.

DRAINAGE AREA.--105 mi².

PERIOD OF RECORD.--August 1946 to current year. Prior to October 1984, published as "West Fork River at Brownsville."

REVISED RECORDS.--WRD WV-81-1: 1981 (P). WRD WV-83-1: Datum.

GAGE.--Water-stage recorder. Elevation of gage is 1,008.6 ft from topographic map. Prior to Nov. 8, 1982, at datum 0.80 ft higher. Prior to Aug. 15, 1949, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 1-19, Oct. 23 to Nov. 2, Dec. 19-30, Jan. 2-17, 29-31, Feb. 14, 15. Records good except those for periods of estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--40 years, 169 ft³/s, 21.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s, Nov. 5, 1985, from rating curve extended above 3,400 ft³/s on basis of slope-area measurement at gage height 17.20 ft; maximum gage height, 17.20 ft, June 25, 1950; no flow for several days during 1952-54, Sept. 16, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,500 ft³/s, Nov. 5, gage height, 16.76 ft; minimum daily discharge, 0.02 ft³/s, June 19; minimum gage height, 4.57 ft, Oct. 16, flashboards removed from dam.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.29	8.0	528	57	95	165	42	81	.19	342	16	17
2	.31	7.0	220	70	352	165	40	73	.16	952	12	16
3	.23	33	134	77	476	188	38	61	.17	1620	11	17
4	.20	2480	97	81	1010	220	36	52	.17	563	10	18
5	.19	9040	86	71	1310	305	34	46	.14	97	8.4	20
6	.18	5360	134	63	696	352	55	42	.11	50	8.4	21
7	.17	1020	212	47	542	380	428	40	.10	34	10	20
8	.20	275	184	38	528	270	446	38	.12	21	11	17
9	.18	169	150	35	342	237	200	32	.20	100	95	16
10	.18	111	117	37	212	464	147	27	.21	672	73	12
11	.18	89	109	39	180	720	143	20	.18	347	79	12
12	.18	79	435	37	147	776	137	12	.19	158	63	12
13	.18	100	904	35	127	434	114	6.7	.18	95	38	15
14	.20	114	1230	32	115	464	95	17	.12	161	23	16
15	.21	130	648	28	105	1840	86	18	.08	109	18	18
16	.17	100	242	26	130	1100	84	11	.06	55	17	17
17	.13	97	161	24	856	476	84	5.6	.04	40	27	12
18	.15	97	100	29	2470	220	89	11	.03	34	48	11
19	.19	84	78	76	2200	177	97	25	.02	23	40	11
20	.33	73	64	584	987	130	97	114	.12	32	25	8.4
21	829	63	58	528	556	100	103	40	.23	500	21	8.4
22	388	476	54	416	386	81	242	17	.27	208	25	11
23	100	1030	56	840	320	71	626	8.4	2.0	66	27	16
24	78	542	58	680	237	66	535	6.1	2.7	40	68	17
25	45	180	56	331	196	59	242	2.7	3.3	27	111	16
26	31	130	51	315	177	55	173	1.0	4.4	23	63	16
27	22	1000	43	386	177	55	140	.27	4.4	23	38	260
28	16	2230	40	247	173	55	111	.28	114	36	36	626
29	13	2490	42	150	---	52	103	.53	310	34	52	320
30	11	1890	44	115	---	48	97	.29	134	23	38	95
31	9.0	---	46	90	---	44	---	.24	---	20	23	---
TOTAL	1546.05	29497.0	6381	5584	15102	9769	4864	809.11	577.89	6505	1134.8	1691.8
MEAN	49.9	983	206	180	539	315	162	26.1	19.3	210	36.6	56.4
MAX	829	9040	1230	840	2470	1840	626	114	310	1620	111	626
MIN	.13	7.0	40	24	95	44	34	.24	.02	20	8.4	8.4
CFSM	.48	9.36	1.96	1.71	5.13	3.00	1.54	.25	.18	2.00	.35	.54
IN.	.55	10.45	2.26	1.98	5.35	3.46	1.72	.29	.20	2.30	.40	.60

CAL YR 1985 TOTAL 75970.43 MEAN 208 MAX 9040 MIN .13 CFSM 1.98 IN 26.91
WTR YR 1986 TOTAL 83461.65 MEAN 229 MAX 9040 MIN .02 CFSM 2.18 IN 29.57

MONONGAHELA RIVER BASIN

03058500 WEST FORK RIVER AT BUTCHERVILLE, WV

LOCATION.--Lat 39°05'25", long 80°28'05", Lewis County, Hydrologic Unit 05020002, on right bank at Butcherville, 0.5 mi upstream from Freemans Creek, 3,500 ft downstream from abandoned bridge on Weston-Clarksburg interurban electric railway, 3.0 mi north of Weston, and at mile 62.0.

DRAINAGE AREA.--181 mi².

PERIOD OF RECORD.--April 1915 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1053: 1935. WSP 1335: 1918, 1923.

GAGE.--Water-stage recorder. Datum of gage is 993.0 ft Department of Highways datum. Prior to Feb. 17, 1937, nonrecording gage at interurban bridge 3,500 ft upstream. Feb. 17, 1937, to Apr. 7, 1939, nonrecording gage at site 2,500 ft upstream. Prior to Oct. 1, 1942, at datum 10.0 ft lower.

REMARKS.--Estimated daily discharges: Dec. 29-31, Jan. 1-5, 8-11, 28-31, Feb. 1, 13-15. Records good except these periods with ice effect, which are poor. The flow from 30.4 mi² is partially controlled, but not diverted, by eight floodwater detention reservoirs and one multi-purpose reservoir. Some additional regulation of low flow from one water-supply reservoir, approximate capacity 96 acre-ft.

AVERAGE DISCHARGE.--71 years, 303 ft³/s, 22.73 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft³/s, June 25, 1950, gage height, 16.81 ft, from rating curve extended above 7,500 ft³/s on basis of slope-area measurement of peak flow; no flow at times during October 1919, September, October, and December 1922, caused by either diversion or pondage at small dam upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1888 reached a stage of 17 ft at site 3,500 ft upstream, present datum, from information by local residents. The stage on that day may have been affected by backwater from a dam which has since been washed out.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,400 ft³/s, Nov. 5, gage height, 15.15 ft; minimum, 7.6 ft³/s, June 19, 20, gage height, 0.64 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	25	881	180	215	341	61	127	20	941	24	31
2	75	30	471	210	635	341	57	112	19	1290	20	26
3	55	196	316	225	737	383	52	93	18	2320	18	26
4	45	6340	249	235	1810	443	50	78	17	885	15	33
5	45	13400	225	220	1950	555	49	69	15	281	13	31
6	44	7750	330	212	1030	645	77	66	14	158	22	30
7	41	1610	403	114	955	653	495	65	16	102	16	28
8	50	536	355	105	811	485	549	59	26	71	29	25
9	44	363	299	110	566	447	286	52	21	270	90	21
10	43	237	292	115	407	778	222	45	18	1020	121	18
11	43	185	296	120	363	1110	216	39	16	551	132	15
12	43	158	838	125	316	1040	194	35	17	288	107	22
13	43	205	1620	125	270	733	158	39	19	195	61	37
14	49	252	1810	102	240	1080	129	47	16	231	43	39
15	49	243	1000	98	250	2730	122	40	13	187	33	33
16	31	198	499	89	273	1580	122	35	11	103	27	28
17	33	180	371	89	2210	803	124	30	12	71	41	26
18	39	165	288	100	3720	447	130	43	9.6	59	60	22
19	41	162	231	246	2850	367	132	55	8.3	45	54	23
20	427	155	208	914	1490	288	129	285	22	115	39	29
21	1330	141	202	782	908	243	149	129	19	969	43	23
22	597	1100	182	844	637	212	322	104	10	421	41	21
23	187	1400	188	1230	547	195	778	58	9.9	169	40	30
24	116	805	195	972	447	160	704	46	9.3	101	134	87
25	84	367	195	578	395	143	374	37	8.2	70	132	47
26	63	288	160	595	367	136	280	31	8.5	77	87	57
27	50	2080	127	644	371	138	222	32	8.9	58	61	552
28	41	3860	129	400	355	129	181	32	504	50	59	1040
29	32	3910	135	300	---	125	169	27	536	48	68	535
30	27	2580	150	235	---	116	148	25	278	37	57	184
31	25	---	160	200	---	102	---	23	---	29	41	---
TOTAL	3864	48921	12805	10514	25125	16948	6681	1958	1719.7	11212	1728	3119
MEAN	125	1631	413	339	897	547	223	63.2	57.3	362	55.7	104
MAX	1330	13400	1810	1230	3720	2730	778	285	536	2320	134	1040
MIN	25	25	127	89	215	102	49	23	8.2	29	13	15
CFSM	.69	9.01	2.28	1.87	4.96	3.02	1.23	.35	.32	2.00	.31	.58
IN.	.79	10.05	2.63	2.16	5.16	3.48	1.37	.40	.35	2.30	.36	.64

CAL YR 1985 TOTAL 135716.0 MEAN 372 MAX 13400 MIN 15 CFSM 2.06 IN 27.89
WTR YR 1986 TOTAL 144594.7 MEAN 396 MAX 13400 MIN 8.2 CFSM 2.19 IN 29.72

MONONGAHELA RIVER BASIN

03061000 WEST FORK RIVER AT ENTERPRISE, WV

LOCATION.--Lat $39^{\circ}25'20''$, long $80^{\circ}16'40''$, Harrison County, Hydrologic Unit 05020002, on left bank 150 ft downstream from old highway bridge and 0.3 mi above new highway bridge at Enterprise, 0.8 mi upstream from Binghamon Creek, and at mile 12.1.

DRAINAGE AREA.--759 mi².

PERIOD OF RECORD.--June 1907 to September 1916, October 1916 to September 1918 (gage heights only), October 1932 to September 1983, October 1983 to September 1984 (gage heights, discharge measurements, and annual maximum discharge only) October 1984 to current year.

REVISED RECORDS.--WSP 803: 1936. WSP 823: Drainage area. WSP 1113: 1936-38(M), 1939, WSP 1335: 1911-15, 1937. WSP 1625: 1915(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 869.45 ft above National Geodetic Vertical Datum, adjustment of 1912. June 1907 to Sept. 30, 1918, nonrecording gage at site 150 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 2, 8-11, 14-17, 29-31, and Feb. 1, 13-15. Records good except those for periods with ice effect, which are fair. The flow from about 40 mi² is partially controlled, but not diverted, by sixteen floodwater detention reservoirs, one municipal water-supply reservoir, and one multipurpose reservoir. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--61 years (water years 1908-1916, 1934-83, 1985-86), 1,152 ft³/s, 20.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,100 ft³/s, Nov. 5, 1985, gage height, 30.37 ft, from rating curve extended above 36,400 ft³/s; minimum, 3.4 ft³/s, July 27, 1934; minimum gage height, 0.6 ft, Sept. 10, 14, 25, 1908.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1888 reached a stage of about 33 ft, present site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41,100 ft³/s, Nov. 5, gage height, 30.37 ft; minimum discharge, 32 ft³/s, Sept. 12; minimum gage height, 1.33 ft, June 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	100	3890	612	976	1460	555	520	146	972	121	95
2	141	98	2190	670	1900	1420	500	480	132	2600	100	79
3	133	211	1540	718	2850	1490	458	426	120	3460	95	70
4	126	10200	1160	766	6800	1700	440	371	114	2430	102	66
5	100	37900	1010	748	10700	2110	418	335	114	1000	81	62
6	85	23200	1240	670	6150	2400	422	319	107	449	66	86
7	70	9030	1590	596	4340	2670	718	404	110	288	97	83
8	60	2470	1490	355	3980	2070	1240	440	120	210	166	70
9	62	1530	1260	351	2830	1900	1280	299	178	413	121	58
10	59	1080	1080	355	2050	3110	1590	287	166	1740	118	45
11	62	982	1020	375	1820	3780	1570	254	123	1410	269	38
12	58	1280	1970	391	1590	3490	1350	227	126	810	231	43
13	58	1490	3680	408	1230	3570	1100	220	146	635	203	64
14	62	2200	6280	335	1090	4720	820	250	134	936	139	58
15	87	1740	3660	299	1200	11200	724	264	110	625	105	70
16	89	1480	2290	254	1250	6420	802	233	90	396	88	77
17	98	1360	1590	323	4250	3400	736	220	123	296	88	66
18	89	1020	1240	359	18100	2330	718	197	110	206	88	50
19	72	802	922	510	9870	1830	640	214	92	154	86	56
20	120	676	790	2760	6160	1660	602	520	126	142	102	81
21	2000	596	766	2870	3950	1360	634	802	146	560	105	90
22	2390	1500	618	2360	3340	1180	880	436	178	1070	97	100
23	957	5350	724	4220	2710	1080	1580	335	126	485	105	77
24	463	2950	724	3560	2160	1010	1800	283	88	259	396	66
25	729	1780	772	2550	1970	886	1420	230	69	175	630	340
26	501	1340	682	2200	1770	808	1020	197	58	262	266	217
27	281	5710	658	2490	1750	790	874	194	49	585	185	900
28	201	13000	607	1880	1630	760	718	210	395	308	160	3540
29	152	12900	535	1300	---	688	694	201	2330	227	154	1770
30	126	7230	515	1020	---	652	624	172	918	227	127	780
31	111	---	525	900	---	602	---	158	---	163	112	---
TOTAL	9631	151205	47018	37205	108416	72546	26927	9698	6844	23493	4803	9197
MEAN	311	5040	1517	1200	3872	2340	898	313	228	758	155	307
MAX	2390	37900	6280	4220	18100	11200	1800	802	2330	3460	630	3540
MIN	58	98	515	254	976	602	418	158	49	142	66	38
CFSM	.41	6.64	2.00	1.58	5.10	3.08	1.18	.41	.30	1.00	.20	.40
IN.	.47	7.41	2.30	1.82	5.31	3.56	1.32	.48	.34	1.15	.24	.45

CAL YR 1985 TOTAL 471927 MEAN 1293 MAX 37900 MIN 58 CFSM 1.70 IN 23.13
WTR YR 1986 TOTAL 506983 MEAN 1389 MAX 37900 MIN 38 CFSM 1.83 IN 24.85

MONONGAHELA RIVER BASIN

03061500 BUFFALO CREEK AT BARRACKVILLE, WV

LOCATION.--Lat 39°30'15", long 80°10'20", Marion County, Hydrologic Unit 05020003, near center of span on downstream side of highway bridge at Barrackville, 1,700 ft upstream from Finchs Run, and at mile 4.0.

DRAINAGE AREA.--115 mi².

PERIOD OF RECORD.--June 1907 to December 1908, May 1915 to June 1924, August 1932 to current year.

REVISED RECORDS.--WSP 783: 1917(M). WSP 1335: 1916(M), 1918-20(M), 1921, 1922(M), 1924(M), 1933(M), 1940.

GAGE.--Water-stage recorder. Datum of gage is 884.4 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1940, nonrecording gage at same site.

REMARKS.--Estimated daily discharges: Dec. 20-23, 27-30, Jan. 8-11, 16, 17, 26-31, and Feb. 14. Records good except those for periods with ice effect, which are poor. Flow from 5.20 mi² is partially controlled, but not diverted, by three floodwater-detention reservoirs. Some additional regulation at low flow from mine pumpage above station.

AVERAGE DISCHARGE.--63 years (water years 1908, 1916-23, 1933-86), 167 ft³/s, 19.72 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 9,490 ft³/s, Jan. 22, 1917, gage height, 16.2 ft, present datum; no flow during greater part of period September to November 1908.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1912 reached a stage of about 18 ft, present site and datum, discharge, 11,600 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	0400	*8,000	*14.73	Nov. 28	1900	3,760	10.22

Minimum discharge, 1.9 ft³/s, June 27; minimum gage height, 1.72 ft, Oct. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	3.0	297	56	224	128	44	101	22	6.8	12	6.8
2	4.5	3.0	226	54	356	120	42	94	20	6.8	14	6.0
3	4.0	7.8	162	61	548	120	37	79	16	11	14	5.8
4	6.0	1660	110	72	1680	133	35	65	15	15	12	5.5
5	5.7	3380	98	83	2280	163	34	65	14	6.0	9.2	6.8
6	4.8	501	106	74	902	191	44	58	13	3.5	8.9	6.8
7	3.8	216	112	67	608	185	396	105	14	2.7	15	6.0
8	2.9	147	112	63	507	173	242	123	15	2.4	18	5.1
9	2.7	101	106	56	353	167	250	95	12	16	22	4.7
10	2.5	66	100	52	259	441	319	65	8.9	137	15	4.4
11	3.3	59	105	49	213	784	292	50	8.9	41	13	4.2
12	13	114	489	47	166	480	220	43	11	53	22	4.0
13	12	328	587	45	148	824	162	41	21	160	13	3.8
14	4.2	820	629	40	130	1340	128	39	21	347	11	3.3
15	2.4	636	338	38	116	1640	150	37	12	97	11	2.7
16	22	744	223	37	104	601	221	31	8.9	45	10	2.2
17	10	629	166	35	604	362	182	26	11	30	9.6	2.1
18	5.1	310	125	40	1730	254	156	24	6.5	22	8.9	2.2
19	3.3	188	114	106	930	218	135	26	2.9	20	8.9	2.6
20	4.2	127	100	678	636	192	130	42	6.5	17	8.3	2.4
21	24	92	90	381	524	141	145	37	3.5	14	8.6	2.4
22	22	120	83	328	520	116	200	29	2.9	11	8.6	2.4
23	12	230	77	517	384	104	247	29	2.6	12	8.9	2.6
24	8.6	170	71	408	286	93	218	29	2.4	11	8.9	2.9
25	8.6	123	79	310	225	77	188	24	2.2	10	8.6	17
26	8.6	128	69	240	191	65	160	22	2.1	10	9.6	17
27	8.6	1490	67	190	184	65	139	23	2.4	19	9.2	26
28	6.4	1960	64	160	145	60	125	26	74	22	8.9	35
29	5.1	1070	61	140	---	55	123	29	67	36	9.6	24
30	4.0	474	58	120	---	51	108	24	16	20	9.2	18
31	3.3	---	53	115	---	47	---	24	---	15	8.0	---
TOTAL	230.9	15896.8	5077	4662	14953	9390	4872	1505	434.7	1219.2	353.9	234.7
MEAN	7.45	530	164	150	534	303	162	48.5	14.5	39.3	11.4	7.82
MAX	24	3380	629	678	2280	1640	396	123	74	347	22	35
MIN	2.4	3.0	53	35	104	47	34	22	2.1	2.4	8.0	2.1
CFSM	.07	4.61	1.43	1.30	4.64	2.64	1.41	.42	.13	.34	.10	.07
IN.	.07	5.14	1.64	1.51	4.84	3.04	1.58	.49	.14	.39	.11	.08

CAL YR 1985	TOTAL	56894.2	MEAN	156	MAX	3380	MIN	2.2	CFSM	1.36	IN	18.40
WTR YR 1986	TOTAL	58829.2	MEAN	161	MAX	3380	MIN	2.1	CFSM	1.40	IN	19.03

MONONGAHELA RIVER BASIN

03062400 COBUN CREEK AT MORGANTOWN, WV

LOCATION.--Lat 39°36'30", long 79°57'20", Monongalia County, Hydrologic Unit 05020003, on left bank at Morgantown, 30 ft upstream from concrete box culvert on Greenbag Road, and at mile 1.4.

DRAINAGE AREA.--10.9 mi².

PERIOD OF RECORD.--April 1965 to current year.

GAGE.--Water-stage recorder and concrete and metal control. Elevation of gage is 890 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 19, 26, 27, 31, Jan. 1, 5-10, 14-17, 29-31, and Feb. 13, 14. Records good except those for periods with ice effect, which are poor.

AVERAGE DISCHARGE.--21 years, 16.6 ft³/s, 20.68 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,100 ft³/s, Aug. 18, 1980, gage height, 19.94 ft, from floodmarks, from rating curve extended above 800 ft³/s on basis of culvert rating computation and flow-over-road measurement of peak flow; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 5	0045	*684	*7.76	Feb. 17	1815	263	4.50
Feb. 5	1015	327	5.17				

No flow several days in October and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	.18	36	7.4	15	16	7.5	12	2.5	1.1	3.6	.21
2	.24	.18	28	8.2	59	14	7.0	11	2.1	8.0	2.7	.18
3	.04	1.6	19	9.2	64	14	6.5	9.0	1.8	8.5	2.1	.16
4	.02	123	15	9.5	166	17	6.0	8.0	1.5	3.1	1.6	.13
5	.02	233	15	9.5	209	17	6.0	7.3	1.5	1.7	1.1	.18
6	.03	63	18	9.2	89	20	8.0	6.8	1.8	1.1	.85	.13
7	.01	33	15	8.5	68	18	24	7.0	1.8	.73	7.6	.07
8	.00	19	13	7.4	55	18	18	6.1	1.4	.51	3.7	.07
9	.00	13	12	6.8	40	17	23	5.2	1.1	9.9	2.7	.05
10	.00	9.9	12	7.3	31	41	25	4.3	.82	13	3.2	.03
11	.00	11	14	7.1	27	56	27	3.9	.82	6.0	3.0	.02
12	.00	25	29	6.7	22	42	27	3.6	1.2	24	1.9	.18
13	.00	32	40	6.0	19	45	23	3.5	1.1	22	1.3	.03
14	.01	54	45	5.8	17	81	18	3.8	.81	33	.97	.02
15	.03	47	31	5.5	16	146	18	3.2	.61	14	.77	.03
16	.00	68	23	5.2	15	62	17	2.8	.78	8.4	.63	.02
17	.00	51	19	5.5	113	40	20	2.5	.78	5.8	.63	.00
18	.00	31	14	6.6	192	29	22	2.7	.47	3.8	.68	.00
19	.00	22	13	17	171	29	20	11	.33	2.9	.58	.05
20	.30	16	11	39	97	23	18	29	.87	8.6	.44	.02
21	1.0	13	9.9	28	69	18	18	19	.74	9.4	.76	.00
22	1.5	22	10	52	57	16	29	13	.39	5.3	1.0	.00
23	.73	23	9.5	60	45	14	32	11	.24	3.4	.71	.18
24	.72	18	9.8	41	36	12	26	9.4	.18	2.6	.57	.07
25	.60	15	8.8	32	28	11	22	7.2	.11	1.9	.44	1.0
26	.43	25	7.6	34	24	10	18	5.7	.07	3.5	.30	.76
27	.38	118	8.0	29	23	11	15	6.0	.24	3.3	.69	7.6
28	.30	189	8.4	19	19	9.5	13	6.0	5.9	2.3	.91	3.5
29	.24	106	7.9	17	---	9.0	15	4.4	3.1	16	.82	1.8
30	.21	53	7.3	15	---	8.5	13	3.5	1.5	8.7	.49	1.1
31	.21	---	6.6	14	---	8.0	---	3.0	---	5.6	.30	---
TOTAL	7.18	1434.86	515.8	528.4	1786	872.0	542.0	230.9	36.56	238.14	47.04	17.59
MEAN	.23	47.8	16.6	17.0	63.8	28.1	18.1	7.45	1.22	7.68	1.52	.59
MAX	1.5	233	45	60	209	146	32	29	5.9	33	7.6	7.6
MIN	.00	.18	6.6	5.2	15	8.0	6.0	2.5	.07	.51	.30	.00
CFSM	.02	4.39	1.52	1.56	5.85	2.58	1.66	.68	.11	.71	.14	.05
IN.	.02	4.90	1.76	1.80	6.09	2.98	1.85	.79	.12	.81	.16	.06

CAL YR 1985	TOTAL	5925.37	MEAN 16.2	MAX 317	MIN .00	CFSM 1.49	IN 20.22
WTR YR 1986	TOTAL	6256.47	MEAN 17.1	MAX 233	MIN .00	CFSM 1.57	IN 21.35

MONONGAHELA RIVER BASIN

03065000 DRY FORK AT HENDRICKS, WV

LOCATION.--Lat 39°04'20", long 79°37'20", Tucker County, Hydrologic Unit 05020004, on right bank at Hendricks, 0.4 mi upstream from confluence with Blackwater River.

DRAINAGE AREA.--345 mi².

PERIOD OF RECORD.--October 1940 to current year. Published as Dry Fork River, 1949-52.

GAGE.--Water-stage recorder. Datum of gage is 1,698.76 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Dec. 21, 1941, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 16 to May 22. Records good except for period of no gage-height record, which is poor.

AVERAGE DISCHARGE.--46 years, 773 ft³/s, 30.43 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100,000 ft³/s, Nov. 5, 1985, gage height, 20.74 ft, from floodmarks, from rating curve extended above 47,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 5.5 ft³/s, Sept. 10, 11, 1965, gage height, 0.99 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	unknown	*100,000	a*20.74	Mar. 15	unknown	unknown	unknown
Nov. 29	unknown	unknown	unknown	June 29	unknown	unknown	unknown
Feb. 4	unknown	unknown	unknown	July 2	unknown	unknown	unknown
Mar. 11	unknown	unknown	unknown				

a From floodmarks.

Minimum discharge, 22 ft³/s, Oct. 1, gage height, 1.13 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	240	3000	295	400	560	254	1120	236	4100	140	155
2	25	500	2100	320	540	490	230	812	215	6710	117	140
3	34	800	1500	360	1500	490	215	610	200	4950	101	210
4	76	6000	1100	390	7800	460	205	503	180	2170	88	170
5	111	34000	820	410	6000	400	200	424	167	1130	76	135
6	83	10000	720	400	4000	370	230	368	180	734	79	130
7	57	6000	640	360	3000	320	674	494	242	530	117	109
8	43	3200	580	310	2000	280	641	467	297	510	155	92
9	35	2300	540	270	1500	350	641	353	297	426	247	79
10	31	1500	520	280	1200	800	696	297	225	930	175	70
11	28	1100	600	300	900	7600	685	272	185	591	165	58
12	27	900	1000	290	740	4000	1140	248	220	635	165	73
13	27	760	5200	260	600	2400	2140	248	230	580	126	70
14	34	1000	4400	235	500	3500	1960	424	190	1340	101	67
15	84	880	3000	210	400	15000	1750	318	167	646	85	56
16	190	760	1800	200	360	6000	2490	266	190	462	88	49
17	160	880	1300	220	480	2400	1870	230	220	374	520	44
18	110	1000	900	300	4400	1500	1580	215	167	334	326	46
19	80	820	740	800	4300	1100	1960	467	128	268	261	109
20	800	700	600	3800	3600	950	1420	2000	254	382	192	198
21	5000	600	440	2000	3000	800	1230	2240	384	374	165	165
22	4000	2300	360	1500	2500	650	1140	1330	230	275	268	126
23	3000	4800	440	1700	2100	550	951	925	167	222	216	96
24	2000	3700	400	1500	1700	490	824	685	368	198	216	88
25	1000	2800	340	1100	1300	430	836	530	384	192	471	130
26	800	2400	300	920	1000	380	707	440	248	165	275	130
27	600	4000	280	800	800	360	610	384	171	326	296	1140
28	460	13000	300	600	640	350	540	467	824	254	471	1470
29	360	13000	330	420	---	330	2100	376	3040	228	382	789
30	300	5000	300	360	---	300	1560	297	1540	234	254	510
31	270	---	280	320	---	280	---	272	---	180	192	---
TOTAL	19848	124940	34830	21230	57260	53890	31479	18082	11546	30450	6530	6704
MEAN	640	4165	1124	685	2045	1738	1049	583	385	982	211	223
MAX	5000	34000	5200	3800	7800	15000	2490	2240	3040	6710	520	1470
MIN	23	240	280	200	360	280	200	215	128	165	76	44
CFSM	1.86	12.1	3.26	1.99	5.93	5.04	3.04	1.69	1.12	2.85	.61	.65
IN.	2.14	13.47	3.76	2.29	6.17	5.81	3.39	1.95	1.24	3.28	.70	.72

CAL YR 1985 TOTAL 403253 MEAN 1105 MAX 34000 MIN 22 CFSM 3.20 IN 43.48
WTR YR 1986 TOTAL 416789 MEAN 1142 MAX 34000 MIN 23 CFSM 3.31 IN 44.94

MONONGAHELA RIVER BASIN

03066000 BLACKWATER RIVER AT DAVIS, WV

LOCATION.--Lat 39°07'35", long 79°28'10", Tucker County, Hydrologic Unit 05020004, on right bank 0.4 mi southwest of Davis, 0.5 mi downstream from Beaver Creek, and at mile 10.6.

DRAINAGE AREA.--86.2 mi².

PERIOD OF RECORD.--April 1921 to current year.

REVISED RECORDS.--WSP 583: 1921-23. WSP 803: Drainage area. WSP 1173: 1931-34(M,m). WSP 1305: 1928(M), 1932-37(M), 1939-41(M), 1944-48(M).

GAGE.--Water-stage recorder. Datum of gage is 3,058.87 ft above National Geodetic Vertical Datum of 1929 (levels by West Virginia Power and Transmission Co.). Prior to Dec. 18, 1952, nonrecording gage at site 60 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 17 to Jan. 16, Jan. 27-31, Feb. 12-16, and Mar. 7-9. Records good except these periods with ice effect, which are poor.

AVERAGE DISCHARGE.--65 years, 200 ft³/s, 31.51 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft³/s, Nov. 5, 1985, gage height, 17.67 ft; minimum, 1.5 ft³/s, Sept. 11, 12, 1959, gage height, 0.90 ft, caused by filling of small water-supply pool about 1.0 mi upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 21	2000	1,580	6.25	Feb. 5	1300	1,690	6.48
Nov. 5	0200	*12,500	*17.67	Mar. 11	0400	1,740	6.56
Nov. 29	0200	2,920	8.32	Mar. 15	1000	2,860	8.23

Minimum discharge, 8.5 ft³/s, Oct. 1, gage height, 1.20 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	132	488	82	159	151	59	163	62	260	35	29
2	11	448	365	91	389	135	55	139	62	682	30	30
3	14	444	268	102	632	122	51	117	61	866	28	36
4	17	2980	218	110	1340	114	48	104	50	392	25	36
5	17	9470	195	109	1610	107	47	95	43	182	21	30
6	16	3520	199	104	1120	99	95	85	42	119	22	26
7	13	1010	171	92	600	90	324	151	66	91	40	20
8	12	537	149	84	418	86	184	290	59	74	48	18
9	10	357	153	72	298	82	139	149	48	324	61	17
10	10	262	197	75	232	572	175	117	38	670	46	15
11	9.5	220	272	80	197	1630	179	101	37	213	46	15
12	10	195	562	77	160	1050	295	87	46	290	41	17
13	11	206	830	72	140	572	568	95	42	211	31	18
14	13	295	750	64	115	1110	505	215	35	230	26	16
15	50	213	400	76	100	2460	439	149	28	171	21	14
16	72	238	308	78	195	1180	730	107	51	117	19	14
17	46	436	220	103	481	516	533	91	65	121	41	12
18	27	268	190	262	1220	331	509	139	52	117	37	11
19	21	202	155	834	1240	260	523	247	35	106	30	15
20	283	169	130	770	1070	218	339	540	75	169	22	19
21	1440	145	115	470	802	182	321	470	107	211	26	24
22	1370	474	100	430	663	151	318	287	55	112	40	20
23	695	714	110	436	470	133	290	202	34	80	43	17
24	335	381	100	311	334	117	250	161	69	68	119	17
25	270	268	94	238	268	103	204	135	99	59	72	62
26	188	318	90	190	222	93	173	114	50	58	41	51
27	136	642	85	163	199	98	143	111	32	66	34	339
28	111	1870	82	140	169	90	126	147	103	82	101	220
29	93	2300	79	120	---	77	313	112	308	54	87	114
30	82	1000	76	110	---	69	255	83	167	46	50	68
31	77	---	78	100	---	63	---	71	---	41	35	---
TOTAL	5468.2	29714	7229	6045	14843	12061	8190	5074	2021	6282	1318	1340
MEAN	176	990	233	195	530	389	273	164	67.4	203	42.5	44.7
MAX	1440	9470	830	834	1610	2460	730	540	308	866	119	339
MIN	8.7	132	76	64	100	63	47	71	28	41	19	11
CFSM	2.04	11.5	2.70	2.26	6.15	4.51	3.17	1.90	.78	2.36	.49	.52
IN.	2.36	12.82	3.12	2.61	6.41	5.20	3.53	2.19	.87	2.71	.57	.58

CAL YR 1985	TOTAL	102799.8	MEAN 282	MAX 9470	MIN 8.7	CFSM 3.27	IN 44.36
WTR YR 1986	TOTAL	99585.2	MEAN 273	MAX 9470	MIN 8.7	CFSM 3.17	IN 42.98

MONONGAHELA RIVER BASIN

03069000 SHAVERS FORK AT PARSONS, WV

LOCATION.--Lat 39°05'45", long 79°40'40", Tucker County, Hydrologic Unit 05020004, on right bank at Parsons, 0.7 mi upstream from confluence with Black Fork.

DRAINAGE AREA.--214 mi².

PERIOD OF RECORD.--October 1910 to September 1926, October 1940 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 583: 1922. WSP 923: Drainage area. WSP 1335: 1911-12, 1915-17, 1918(M), 1921-22(M), 1926(M). WSP 1705: 1955.

GAGE.--Water-stage recorder. Datum of gage is 1,634.87 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 25, 1923, nonrecording gage on old highway bridge 800 ft downstream and Aug. 25, 1923, to Sept. 30, 1926, nonrecording gage on railroad bridge 760 ft downstream at datum 3.0 ft lower. Oct. 4, 1940, to Apr. 4, 1942, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 21-31, Jan. 1-17, 29-31, Feb. 15. Records good except these periods with ice effect, which are poor.

AVERAGE DISCHARGE.--62 years, 555 ft³/s, 35.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,000 ft³/s, Nov. 5, 1985, gage height, 19.86 ft, from floodmarks, from rating curve extended above 11,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily discharge, 3.0 ft³/s, Oct. 7, 1914.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, and July 17, 1907, reached a stage of approximately 12.5 ft at site and datum of former gage, discharge, 25,000 ft³/s, from rating curve extended above 8,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	0045	*43,000	a*19.86	Mar. 15	0530	12,700	10.31
Nov. 29	0245	10,000	9.07	June 29	0045	5,440	6.39
Feb. 4	1330	7,140	7.49	July 2	2100	6,500	7.09
Mar. 11	1215	5,500	6.43				

a From floodmarks.

Minimum discharge, 31 ft³/s, Oct. 1, gage height, 0.48 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	176	1210	150	276	304	220	611	180	2600	171	147
2	40	181	871	170	505	280	217	431	171	4600	151	137
3	39	202	675	190	1250	283	215	330	158	4590	142	144
4	80	5930	512	205	5220	267	214	275	149	1640	137	180
5	124	21000	441	210	3640	249	212	234	140	844	137	158
6	100	4990	425	195	2740	244	224	211	140	493	137	156
7	76	2540	382	180	1600	241	410	291	149	326	130	133
8	60	1510	339	150	1160	232	580	283	156	252	140	117
9	48	1020	338	135	836	255	478	252	192	249	154	106
10	41	752	393	145	638	1120	523	211	189	756	174	94
11	37	599	473	155	542	4360	500	192	165	414	168	85
12	35	526	1730	145	415	2050	702	183	275	363	168	74
13	34	477	2680	135	301	1180	1200	180	312	326	156	72
14	40	623	2090	120	263	3100	1030	183	217	764	140	72
15	61	590	1150	100	230	7950	964	180	195	363	135	71
16	66	490	804	105	273	2290	1230	174	211	249	128	66
17	111	606	611	115	1500	1230	1020	168	217	201	299	61
18	96	603	460	238	2780	824	884	158	171	183	256	59
19	72	470	283	1040	2540	630	1260	271	158	183	168	69
20	934	398	249	2650	2150	520	949	1590	183	192	147	174
21	2850	346	220	1100	1590	677	756	1510	245	198	137	133
22	1760	918	180	848	1510	341	858	908	201	183	128	106
23	814	2030	215	1040	1200	300	879	576	177	180	137	85
24	529	1020	260	757	870	281	691	414	192	201	383	81
25	509	690	180	547	652	254	706	321	860	180	426	104
26	438	584	140	509	497	239	634	249	256	180	201	92
27	325	2420	145	423	433	238	495	224	168	186	174	172
28	270	6030	160	244	370	238	412	249	1350	183	205	1710
29	232	6130	165	220	---	236	1420	256	3690	224	283	764
30	207	2080	150	200	---	229	1090	211	1460	224	198	486
31	192	---	140	190	---	226	---	195	---	183	165	---
TOTAL	10254	65931	18071	12611	35981	30868	20973	11521	12327	21710	5675	5908
MEAN	331	2198	583	407	1285	996	699	372	411	700	183	197
MAX	2850	21000	2680	2650	5220	7950	1420	1590	3690	4600	426	1710
MIN	34	176	140	100	230	226	212	158	140	180	128	59
CFSM	1.55	10.3	2.72	1.90	6.01	4.65	3.27	1.74	1.92	3.27	.86	.92
IN.	1.78	11.46	3.14	2.19	6.25	5.37	3.65	2.00	2.14	3.77	.99	1.03

CAL YR 1985 TOTAL 244228 MEAN 669 MAX 21000 MIN 31 CFSM 3.13 IN 42.45
WTR YR 1986 TOTAL 251830 MEAN 690 MAX 21000 MIN 34 CFSM 3.22 IN 43.78

MONONGAHELA RIVER BASIN

03069500 CHEAT RIVER NEAR PARSONS, WV

LOCATION.--Lat 39°07'20", long 79°40'50", Tucker County, Hydrologic Unit 05020004, on left bank 2.0 mi north of Parsons, 3.0 mi downstream from confluence of Black Fork and Shavers Fork, and at mile 74.8.

DRAINAGE AREA.--718 mi².

PERIOD OF RECORD.--January 1913 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 893: Drainage area. WSP 1305: 1917(M), 1924(M), 1932(M), 1936(M), 1938-39(M). WSP 1335: 1916. WSP 1385: 1918-19(M).

GAGE.--Water-stage recorder. Datum of gage is 1,589.66 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Aug. 17, 1944, nonrecording gage on Moss Bridge about 1,600 ft upstream at datum 1.13 ft higher. Nov. 21, 1985 to Sept. 30, 1986, recording gage on Moss Bridge at datum 1.27 ft lower.

REMARKS.--Estimated daily discharges: Nov. 4-21, Dec. 24 to Jan. 17, Jan. 29-31, Feb. 6-15, and July 18-25. Records good except these periods of estimated daily discharges, which are poor. National Weather Service and Monongahela Power Company gage-height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--73 years, 1,706 ft³/s, 32.27 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 170,000 ft³/s, Nov. 5, 1985, gage height, 24.30 ft, from floodmarks, from rating curve extended above 55,000 ft³/s; minimum observed, 9 ft³/s, Aug. 12, 1930, gage height, 1.28 ft, site and datum then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, reached a stage of 20.5 ft, discharge, 51,300 ft³/s, from floodmarks, at site and datum in use prior to Aug. 17, 1944; it was not exceeded until flood of Oct. 15, 1954, which reached a stage 0.3 ft higher at that site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	unknown	*170,000	a*24.30	Mar. 11	0900	18,800	13.33
Nov. 29	0100	39,600	17.68	Mar. 15	0430	35,800	17.05
Feb. 4	1400	19,200	13.43	July 2	2230	17,000	12.87

a From floodmarks.

Minimum discharge, 66 ft³/s, part or all of each day Oct. 1-3, 11-14, gage height, 1.81 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	513	5000	580	916	1130	520	2430	555	7320	360	385
2	67	1520	3200	640	1780	1030	490	1880	500	12400	288	380
3	71	1770	2400	720	4260	1050	460	1470	465	11700	245	450
4	134	15200	1900	770	15000	948	430	1180	405	4780	221	515
5	216	70000	1600	780	12100	865	410	1010	360	2650	194	410
6	182	16000	1400	760	9000	781	490	879	356	1750	203	405
7	134	9000	1300	680	6000	664	1740	1360	485	1250	324	340
8	103	5500	1200	600	3500	586	1790	1550	555	940	368	288
9	87	3600	1100	520	2700	795	1540	1120	652	1260	560	251
10	80	2600	1100	540	2100	3280	1720	865	535	3080	465	227
11	69	2000	1300	570	1700	15000	1690	736	410	1730	425	206
12	66	1800	2300	560	1400	7140	2120	646	610	1910	430	200
13	66	1600	11000	500	1200	4630	4490	598	781	1540	340	209
14	76	2100	9000	460	1000	9880	4260	996	540	3120	264	191
15	272	1900	4600	390	800	25200	3940	872	430	1690	224	165
16	409	1700	3300	410	1000	7900	5010	688	598	1090	197	152
17	272	2000	2400	460	3650	4270	4130	598	610	865	837	143
18	206	1800	1900	580	9290	2910	3560	555	435	720	736	138
19	158	1600	1500	3260	9030	2310	4530	1290	328	550	500	191
20	3320	1300	1100	7850	7650	1920	3390	4530	718	740	364	505
21	11300	1200	900	3890	5840	1560	2810	4650	1080	740	292	395
22	6910	3000	760	3150	5190	1250	2850	3110	658	540	415	308
23	5040	8000	860	3540	4110	1090	2690	2190	420	440	425	245
24	2300	6000	1000	2600	3120	988	2230	1690	788	380	1250	227
25	2060	4000	800	2040	2430	865	2230	1320	1670	500	1300	555
26	1520	2500	540	1840	1910	774	1980	1050	754	460	652	390
27	1090	6000	560	1530	1740	748	1660	924	495	816	560	2690
28	862	21000	620	940	1420	754	1410	1180	2440	600	1000	3870
29	691	21000	620	800	---	670	3980	1010	7710	700	1000	2000
30	609	10000	580	720	---	598	3520	760	3860	664	658	1200
31	549	---	540	640	---	555	---	658	---	485	485	---
TOTAL	38985	226203	66380	43320	119836	102141	72070	43795	30203	67410	15582	17631
MEAN	1258	7540	2141	1397	4280	3295	2402	1413	1007	2175	503	588
MAX	11300	70000	11000	7850	15000	25200	5010	4650	7710	12400	1300	3870
MIN	66	513	540	390	800	555	410	555	328	380	194	138
CFSM	1.75	10.5	2.98	1.95	5.96	4.59	3.35	1.97	1.40	3.03	.70	.82
IN.	2.02	11.72	3.44	2.24	6.21	5.29	3.73	2.27	1.56	3.49	.81	.91
CAL YR 1985	TOTAL	807350	MEAN	2212	MAX	70000	MIN	66	CFSM	3.08	IN	41.83
WTR YR 1986	TOTAL	843556	MEAN	2311	MAX	70000	MIN	66	CFSM	3.22	IN	43.71

03070000 CHEAT RIVER AT ROWLESBURG, WV

LOCATION (REVISED).--Lat 39°20'48", long 79°39'56", Preston County, Hydrologic Unit 05020004, on right bank 800 ft upstream from Baltimore & Ohio Railroad bridge at Rowlesburg, 1,100 ft upstream from Saltlick Creek, and at mile 44.2. Prior to Nov. 5, 1985, at site 800 ft downstream.

DRAINAGE AREA.--937 mi², revised. Area at site used prior to Nov. 5, 1985, 972 mi².

PERIOD OF RECORD.--July 1912 to September 1923 (gage heights only), October 1923 to current year. Gage-height records collected at practically the same site since 1884 are contained in reports of National Weather Service. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 803: Drainage area. WSP 893: 1936-37. WSP 1173: 1924-34(M,m). WSP 1725: 1924(M), 1930(M), 1932(M), 1936(M), 1938-39(M), 1944(M), 1948-49(M).

GAGE.--Water-stage recorder. Datum of gage is 1,370.24 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 5, 1985, at site 800 ft downstream at datum 0.44 ft lower. Prior to Nov. 18, 1923, nonrecording gages at several sites within 500 ft of present site at various datums.

REMARKS.--Estimated daily discharges: Nov. 5 to July 18, and Sept. 19-30. Records poor. National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--63 years, 2,298 ft³/s, 33.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 190,000 ft³/s, Nov. 5, 1985, gage height, 34.90 ft, from floodmarks, from rating curve extended above 60,000 ft³/s; minimum, 10 ft³/s, Oct. 15, 1930; minimum gage height observed, 0.50 ft Oct. 3, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 6, 1844, reached a stage of 16.7 ft, referred to present gage by relation curve, discharge, 89,000 ft³/s, from rating curve extended above 45,000 ft³/s. Flood of July 10, 1888, reached a stage of 16.2 ft, referred to present gage by relation curve, discharge, 84,000 ft³/s, from rating curve extended above 45,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	unknown	*190,000	a*34.90	Mar. 11	unknown	unknown	unknown
Nov. 29	unknown	unknown	unknown	Mar. 15	unknown	unknown	unknown
Feb. 4	unknown	unknown	unknown	July 3	unknown	unknown	unknown

a From floodmarks.

Minimum discharge observed, 64 ft³/s, Oct. 1, gage height, 0.72 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	743	8000	720	1400	1600	700	3300	740	11000	618	496
2	87	1070	5500	800	2000	1300	660	2200	680	18000	470	430
3	94	1900	3500	900	7000	1400	620	1900	620	16000	394	440
4	90	15100	3000	970	20000	1300	580	1600	580	5500	334	546
5	154	94000	2500	1000	17000	1100	560	1400	520	3000	290	529
6	154	24000	2100	960	12000	1000	800	1200	470	2000	271	455
7	192	14000	1900	870	8000	920	2300	1900	600	1600	290	430
8	186	9000	1700	780	5000	840	2400	2100	760	1300	408	366
9	149	5800	1600	660	4000	1900	2100	1500	920	2000	558	314
10	123	4000	1600	680	3000	4000	2400	1200	780	4500	654	280
11	103	3000	2100	730	2400	10000	2300	1000	580	2500	552	256
12	90	2500	4000	720	1900	20000	3200	850	800	2800	546	242
13	80	2100	17000	650	1600	11000	6200	780	1100	2200	490	234
14	80	2800	10000	580	1300	6800	6000	1400	800	4400	386	236
15	103	2600	7000	490	1000	33000	5500	1200	600	2400	314	225
16	434	2200	5000	510	1500	11000	7000	1000	820	1600	274	208
17	428	2800	3500	560	10000	6500	6000	840	840	1200	326	188
18	352	2600	2600	790	13000	4500	5000	780	600	1280	1070	182
19	284	2200	2000	3500	12000	3400	6200	2000	460	1010	696	186
20	303	1900	1500	11000	11000	2700	5000	6200	800	1150	512	242
21	14500	1700	1200	6000	9000	2100	3800	6400	1500	1950	408	540
22	8810	5000	900	4200	7000	1800	3800	3900	900	1480	366	412
23	4650	13000	1000	4900	5500	1500	3200	2800	600	923	460	338
24	2700	11000	1200	3600	4500	1300	2900	2100	1000	727	741	290
25	2440	6000	970	2700	3500	1200	3000	1800	2300	734	1800	342
26	2040	4000	680	2400	2700	1100	2500	1500	900	678	1020	720
27	1520	9000	700	2000	2200	1000	2100	1300	700	881	648	2050
28	1230	27000	750	1400	1900	1000	1900	1600	3000	860	839	5280
29	1030	28000	800	1100	---	920	5400	1300	11000	1200	1210	3360
30	897	13000	720	1000	---	840	4500	1000	5000	1340	923	1800
31	808	---	680	900	---	760	---	880	---	874	654	---
TOTAL	44175	312013	95700	58070	171400	137780	98620	58930	40970	97087	18522	21617
MEAN	1425	10400	3087	1873	6121	4445	3287	1901	1366	3132	597	721
MAX	14500	94000	17000	11000	20000	33000	7000	6400	11000	18000	1800	5280
MIN	64	743	680	490	1000	760	560	780	460	678	271	182
CFSM	1.52	11.1	3.30	2.00	6.53	4.74	3.51	2.03	1.46	3.34	.64	.77
IN.	1.75	12.39	3.80	2.31	6.80	5.47	3.92	2.34	1.63	3.85	.74	.86

CAL YR 1985	TOTAL	1160070	MEAN	3178	MAX	94000	MIN	64	CFSM	3.39	IN	46.06
WTR YR 1986	TOTAL	1154884	MEAN	3164	MAX	94000	MIN	64	CFSM	3.38	IN	45.85

MONONGAHELA RIVER BASIN

03070500 BIG SANDY CREEK AT ROCKVILLE, WV

LOCATION.--Lat $39^{\circ}37'15''$, long $79^{\circ}42'20''$, Preston County, Hydrologic Unit 05020004, on right bank just downstream from highway bridge at Rockville, and at mile 5.0.

DRAINAGE AREA.--200 mi².

PERIOD OF RECORD.--May 1909 to March 1918, April 1921 to current year.

REVISED RECORDS.--WSP 583: 1912(M), 1922-23. WSP 643: Drainage area. WSP 923: 1939. WSP 1173: 1930-34(M,m). WSP 1335: 1910-18, 1921, 1922-24(M), 1928(M), 1930-43(M).

GAGE.--Water-stage recorder. Elevation of gage is 1,310 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 4, 1924, nonrecording gages at highway bridge at same datum.

REMARKS.--Estimated daily discharges: Dec. 20 to Jan. 1, Jan. 9, 10, 12-18, Jan. 30 to Feb. 1, and Feb. 11-16. Records good except these periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--73 years (water years 1910-17, 1922-86), 423 ft³/s, 28.72 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 21,300 ft³/s, July 24, 1912, gage height, 18.0 ft, from rating curve extended above 10,000 ft³/s on basis of velocity-area studies; minimum, 0.1 ft³/s, Oct. 21-27, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, reached a stage of about 20 ft, discharge, about 30,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	0200	7,140	11.76	Feb. 4	1700	9,200	12.80
Nov. 27	0800	7,500	11.95	Feb. 5	1300	*10,800	*13.58
Nov. 28	1700	6,270	11.29	Feb. 19	1900	6,430	11.38

Minimum discharge, 8.4 ft³/s, Sept. 18, gage height, 3.08 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	37	1010	135	250	301	157	220	90	36	88	17
2	15	38	750	157	835	275	148	200	79	102	72	16
3	18	90	547	169	1520	265	135	173	67	230	62	15
4	18	1800	440	194	6150	255	127	155	57	103	54	15
5	17	4700	388	213	8450	243	133	145	56	62	46	20
6	15	1900	408	203	4120	240	223	135	63	46	43	30
7	13	1170	358	184	1790	215	370	141	62	37	151	24
8	12	796	333	165	1100	172	320	129	85	31	111	18
9	11	562	341	140	768	288	387	112	69	109	80	14
10	10	432	354	150	609	955	554	102	52	243	72	86
11	10	396	442	170	440	1870	593	95	44	113	104	102
12	9.6	704	1140	145	350	1110	835	88	52	231	80	64
13	9.8	1080	1210	135	280	976	984	87	62	243	54	24
14	11	1840	1230	125	230	1300	684	101	53	354	45	19
15	19	2080	808	115	255	2920	574	92	42	170	39	16
16	25	2660	617	105	225	1500	572	83	40	113	35	12
17	20	2530	505	120	944	911	640	81	104	392	34	9.9
18	17	1260	389	210	3840	643	759	74	85	591	34	8.8
19	15	791	264	695	4700	564	613	114	49	445	30	11
20	17	586	235	1080	3620	465	519	336	58	1360	26	16
21	277	453	215	782	1960	362	496	273	64	788	27	17
22	219	645	180	659	1410	306	590	208	42	435	29	15
23	131	821	210	797	976	285	615	177	35	284	26	13
24	112	615	245	651	722	255	532	158	38	207	30	41
25	174	502	190	563	577	220	463	130	36	166	32	136
26	111	767	165	531	478	203	404	110	25	199	23	98
27	77	5880	150	469	443	226	340	113	21	332	47	147
28	60	5890	170	330	351	210	294	174	93	185	62	103
29	51	3550	160	376	---	189	306	134	78	154	40	60
30	44	1630	155	325	---	180	244	112	48	138	28	44
31	41	---	145	250	---	170	---	103	---	110	21	---
TOTAL	1590.4	46205	13754	10343	47393	18074	13611	4355	1749	8009	1625	1211.7
MEAN	51.3	1540	444	334	1693	583	454	140	58.3	258	52.4	40.4
MAX	277	5890	1230	1080	8450	2920	984	336	104	1360	151	147
MIN	9.6	37	145	105	225	170	127	74	21	31	21	8.8
CFSM	.26	7.70	2.22	1.67	8.47	2.92	2.27	.70	.29	1.29	.26	.20
IN.	.30	8.59	2.56	1.92	8.82	3.36	2.53	.81	.33	1.49	.30	.23

CAL YR 1985	TOTAL	170893.8	MEAN 468	MAX 5890	MIN 9.3	CFSM 2.34	IN 31.79
WTR YR 1986	TOTAL	167920.1	MEAN 460	MAX 8450	MIN 8.8	CFSM 2.30	IN 31.23

MONONGAHELA RIVER BASIN

03071600 CHEAT RIVER AT LAKE LYNN, PA

LOCATION.--Lat 39°43'15", long 79°51'20", Fayette County, Hydrologic Unit 05020004, at the Lake Lynn hydro-electric plant of the West Penn Power Company at Lake Lynn, 3.0 mi upstream from mouth.

DRAINAGE AREA.--1,411 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1948 to September 1957, October 1958 to current year (partial record).

COOPERATION.--Records were furnished by the West Penn Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES (Water years 1949-57): Maximum 29.5°C July 30, 1949, July 28, 1952, and Aug. 6, 1955; minimum, 0.5°C several days during 1951, 1952, 1954, 1955, 1957.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.5	13.5	---	---	---	---	11.0	17.0	---	---	---	---
2	19.5	---	---	1.0	---	---	11.0	17.0	20.5	24.5	---	24.0
3	19.5	---	9.0	1.0	.5	3.0	13.0	---	20.0	23.0	---	23.5
4	20.0	13.5	8.5	---	1.0	3.0	15.0	---	21.5	---	26.0	23.5
5	---	---	8.0	---	4.0	3.0	---	16.0	23.0	---	26.0	24.0
6	---	---	---	1.0	---	2.5	---	16.5	24.0	---	27.0	---
7	19.0	---	---	1.0	---	2.0	15.0	17.5	---	26.5	26.5	---
8	19.0	---	---	1.0	---	---	15.0	---	---	28.0	26.0	22.0
9	19.0	---	6.5	1.0	---	---	13.0	17.0	24.0	25.5	---	23.0
10	19.0	---	6.5	1.0	---	5.5	13.0	---	23.0	24.5	---	23.0
11	19.0	---	8.5	---	4.0	3.0	13.0	---	---	24.5	26.0	23.5
12	---	---	6.0	---	4.0	5.5	---	19.5	---	---	26.5	23.5
13	---	---	5.0	1.0	3.0	6.0	---	19.0	24.0	---	25.5	---
14	18.0	---	---	1.0	2.0	6.0	13.0	18.5	---	24.5	---	---
15	18.0	---	---	1.0	---	---	12.5	20.0	---	25.0	26.5	22.0
16	18.0	---	4.5	1.0	---	---	11.0	20.5	26.0	---	---	22.0
17	19.0	---	---	1.0	---	---	10.0	---	---	26.5	---	22.0
18	19.0	11.5	3.0	---	4.0	5.5	11.0	---	24.0	25.5	25.5	21.5
19	---	11.5	1.0	---	4.0	6.0	---	22.0	24.0	---	25.5	21.5
20	---	10.0	.5	1.0	4.0	6.0	---	21.0	24.5	---	25.5	---
21	17.0	10.0	---	.5	5.0	6.0	12.0	20.0	---	26.0	25.5	---
22	17.0	10.0	---	.0	---	---	10.5	19.5	---	25.5	26.0	22.5
23	16.5	9.5	1.5	---	---	---	10.0	18.5	25.0	26.5	---	22.5
24	16.0	---	1.0	.0	5.0	6.0	13.0	---	24.5	28.0	---	22.0
25	15.0	8.5	---	---	5.0	8.5	12.5	---	24.5	28.5	24.5	23.0
26	---	8.5	.5	---	5.0	9.0	---	---	25.0	---	25.0	24.0
27	---	8.0	.5	.0	5.0	7.5	---	19.5	---	---	25.0	---
28	14.5	---	---	.0	4.5	---	16.0	20.5	---	22.0	24.5	---
29	13.5	---	---	.0	---	---	16.5	22.0	---	25.5	---	23.5
30	13.5	---	.5	.0	---	---	15.0	23.0	24.5	26.0	---	23.0
31	13.5	---	.5	.5	---	11.0	---	---	---	26.0	---	---
MEAN	17.5	10.5	4.0	.5	4.0	5.5	13.0	19.0	23.5	25.5	25.5	23.0
WTR YR 1986	MEAN	14.5		MAX	28.5		MIN	.0				

OHIO RIVER MAIN STEM

03111534 OHIO RIVER AT MARTINS FERRY, OH
(Formerly published as 03112500 Ohio River at Wheeling, WV)

LOCATION.--Lat 40°06'18", long 80°42'31", Belmont County, Ohio, Hydrologic Unit 05030106, on right bank at water plant at Martins Ferry, Ohio, 300 ft downstream from Old Lock 12, 0.9 mi downstream from Glenss Run (Ohio), 3.0 mi upstream from Wheeling Creek (Ohio), and at mile 87.5, measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--24,700 mi², approximately.

PERIOD OF RECORD.--January to March 1844, January 1905 to December 1906 (gage heights only), December 1906 to February 1907, March to April 1913, February to April 1936, December 1936 to February 1937 (published as "at Wheeling"), October 1978 to current year. Monthly discharge for some periods published in WSP 1305. Gage-height records collected in this vicinity since 1882 are in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 610.80 ft above National Geodetic Vertical Datum of 1929. See WSP 1305 for history of gages prior to 1978. Auxiliary water-stage recorder 12.9 mi downstream from base gage at same datum.

REMARKS.--Estimated daily discharges: Oct. 21-26, Nov. 16-18, Dec. 5-7, Feb. 11, Mar. 25, 27, 28, Apr. 1, 7, 8, 10, 12-24, 26-28, 30, May 1-3, 22, June 7, 9-12, 17, July 20-31, Aug. 1-4, 13, and Sept. 28-30. Records good except for periods of estimated record, which are poor. Flow regulated by Ohio River system of locks, dams, and reservoirs. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--8 years, 43,520 ft³/s, 23.92 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 466,000 ft³/s, Mar. 19, 1936, gage height 55.2 ft; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 268,000 ft³/s, Nov. 6, gage height 34.27 ft; minimum daily discharge, 8,210 ft³/s, Sept. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11400	12100	159000	22600	35700	73600	21300	31500	13500	26800	15000	9170
2	14100	12600	138000	28000	40400	57200	20800	30000	11700	39800	14000	10700
3	11400	15600	123000	25300	63000	42700	17100	26000	10900	63400	13000	10500
4	12200	39200	112000	24700	80800	42200	16100	19100	13000	54600	10000	10500
5	13700	126000	113000	27200	188000	34600	16200	15800	14900	40200	11900	12800
6	14400	248000	116000	25400	259000	29000	16700	17300	27900	30200	15800	11500
7	13000	206000	105000	24700	204000	28900	20000	20300	42000	21300	14200	9650
8	12800	118000	78200	20800	134000	31500	28600	19700	44900	17900	15900	9870
9	12200	82200	68700	24200	118000	24000	28400	23500	40500	39800	13600	10100
10	12000	68600	64300	22900	99600	30200	28000	18000	37500	53800	14700	13200
11	12300	92000	70700	21500	90000	53200	25500	14800	37000	43900	18300	11800
12	12000	114000	124000	22700	83300	85900	28500	12800	76000	41700	16100	11300
13	11700	133000	124000	21500	75700	83600	30000	14100	93600	35600	19000	11300
14	11400	103000	121000	23100	67100	81200	32000	15400	73400	35700	18000	10400
15	11600	114000	117000	21000	62300	110000	31000	14100	58700	35000	13200	10700
16	11400	150000	88400	18300	51800	156000	39000	12300	55200	28700	11400	8210
17	11200	190000	80000	20400	43200	112000	47000	16100	60000	26800	14500	10200
18	12800	170000	70900	20900	75300	99600	56000	12500	64500	26100	10800	12000
19	12300	113000	60100	29000	133000	98200	61000	13400	50200	23700	12400	11100
20	11300	102000	44800	73200	157000	76500	57000	16900	45600	47500	15700	11400
21	19000	84300	43700	135000	152000	79400	50500	21200	40600	60000	13100	9190
22	30000	77300	38300	120000	147000	79100	57500	32000	34300	58000	10900	11700
23	26000	72100	32100	99500	133000	67900	68500	30900	30300	50000	11600	11700
24	21000	77900	39200	103000	106000	56000	70000	22900	31900	45000	13000	17000
25	18000	68600	34500	95800	104000	48000	53600	19700	23700	41000	10000	19900
26	17900	61200	30600	83200	98700	41700	44000	16100	17500	35500	14000	23200
27	16300	137000	28000	75100	94800	38000	35000	16300	19200	30000	13500	18900
28	12800	190000	25500	61500	83200	33000	31000	19400	21000	26500	11000	25000
29	12300	249000	21900	51100	---	32000	33100	14900	20000	23000	10300	32000
30	13500	219000	21200	40700	---	26000	32000	18200	25600	19500	11500	28000
31	12800	---	23800	40300	---	21700	---	23700	---	16500	10800	---
TOTAL	444800	3445700	2316900	1422600	2979900	1872900	1095400	598900	1135100	1137500	417200	412990
MEAN	14350	114900	74740	45890	106400	60420	36510	19320	37840	36690	13460	13770
MAX	30000	249000	159000	135000	259000	156000	70000	32000	93600	63400	19000	32000
MIN	11200	12100	21200	18300	35700	21700	16100	12300	10900	16500	10000	8210

CAL YR 1985 TOTAL 16488300 MEAN 45170 MAX 249000 MIN 6200
WTR YR 1986 TOTAL 17279890 MEAN 47340 MAX 259000 MIN 8210

WHEELING CREEK BASIN

03112000 WHEELING CREEK AT ELM GROVE, WV

LOCATION.--Lat $40^{\circ}02'40''$, long $80^{\circ}39'40''$, Ohio County, Hydrologic Unit 05030106, on right bank at highway bridge at Elm Grove, 500 ft downstream from Little Wheeling Creek, and at mile 7.7.

DRAINAGE AREA.--282 mi².

PERIOD OF RECORD.--October 1940 to current year. Monthly discharge only for October 1940, published in WSP 1907.

REVISED RECORDS.--WSP 1305: 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 667.59 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 20-25, 27-31, Jan. 1-3, 9-17. Records good except for periods of estimated daily record, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--46 years, 335 ft³/s, 16.13 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,100 ft³/s, Dec. 30, 1942, gage height, 13.67 ft, from rating curve extended above 15,000 ft³/s on basis of slope-area measurements at gage heights 13.2 ft and 13.67 ft; minimum, 0.1 ft³/s, Oct. 7, 1963, Sept. 26, 27, 1964; minimum gage height, 0.58 ft, Sept. 11, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	0100	6,840	6.56	Nov. 27	0530	*21,400	*13.47
Nov. 16	1600	9,480	7.99	Feb. 5	1630	6,520	6.43

Minimum discharge, 0.78 ft³/s, Sept. 17, 18, gage height, 0.78 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	23	1250	140	262	320	153	120	42	47	21	7.2
2	6.9	31	904	150	498	290	142	114	31	57	18	6.2
3	4.2	130	688	165	931	271	136	102	26	108	15	5.3
4	4.2	2250	589	183	2570	271	132	93	23	63	13	4.5
5	8.2	4100	519	191	4790	271	126	85	23	42	11	4.1
6	6.9	1230	512	171	2620	276	132	82	28	31	9.4	3.2
7	5.3	644	464	183	1640	290	146	99	27	24	28	2.9
8	5.3	462	416	164	1160	230	146	93	36	20	33	2.4
9	5.3	364	380	145	850	257	142	79	30	120	20	2.0
10	4.6	583	350	130	696	310	156	69	27	216	23	1.6
11	4.6	2310	440	110	610	1040	164	63	36	120	34	1.6
12	4.2	2590	1110	105	526	886	167	59	117	88	45	1.8
13	6.9	2050	1010	110	428	868	153	63	153	105	28	1.6
14	24	1550	1170	115	380	1180	142	65	79	105	20	1.4
15	21	1930	841	110	392	1490	139	61	53	82	19	1.2
16	15	6310	696	105	340	1050	139	61	42	57	20	.92
17	12	4250	596	100	464	744	150	90	59	45	20	.85
18	15	2160	477	132	1930	596	150	90	57	36	23	.92
19	15	1270	330	248	2080	575	136	65	36	34	19	1.4
20	44	863	285	904	2110	610	129	63	31	59	16	1.4
21	52	638	255	712	1240	477	179	55	27	93	13	1.4
22	38	526	235	610	1080	404	300	45	23	65	11	1.2
23	40	474	220	814	823	362	350	42	20	44	11	1.6
24	41	412	210	704	666	320	286	38	18	31	16	7.7
25	38	363	230	589	568	281	239	36	16	24	10	33
26	31	2910	199	505	470	248	212	33	13	45	7.7	15
27	28	11400	190	452	440	234	183	34	21	30	10	23
28	27	5680	180	330	368	216	160	36	93	23	11	26
29	27	3240	170	315	---	195	142	38	117	21	9.4	20
30	23	1800	165	325	---	179	129	36	71	28	8.2	21
31	23	---	150	271	---	163	---	36	---	28	7.7	---
TOTAL	583.7	62543	15231	9288	30932	14904	5060	2045	1375	1891	550.4	202.39
MEAN	18.8	2085	491	300	1105	481	169	66.0	45.8	61.0	17.8	6.75
MAX	52	11400	1250	904	4790	1490	350	120	153	216	45	33
MIN	3.1	23	150	100	262	163	126	33	13	20	7.7	.85
CFSM	.07	7.39	1.74	1.06	3.92	1.71	.60	.23	.16	.22	.06	.02
IN.	.08	8.25	2.01	1.23	4.08	1.97	.67	.27	.18	.25	.07	.03

CAL YR 1985	TOTAL	136197.40	MEAN 373	MAX 11400	MIN 2.1	CFSM 1.32	IN 17.97
WTR YR 1986	TOTAL	144605.49	MEAN 396	MAX 11400	MIN .85	CFSM 1.40	IN 19.08

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV
(National Stream-quality accounting network station)

LOCATION.--Lat 40°00'54", long 80°44'20", Marshall County, Hydrologic Unit 05030106, at Bellaire Toll Bridge, at Benwood, and at mile 94.3.

DRAINAGE AREA.--Approximately 25,070 mi².

PERIOD OF RECORD.--Water years 1978 to current year.

REMARKS.--Lab analyses performed by West Virginia Department of Natural Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
DEC 12...	1000	E122000	275	7.70	8.0	19	743	--	--	3000	1900	110
FEB 11...	1430	E88000	230	7.80	3.0	23	742	14.0	107	1700	730	84
APR 09...	1000	E29400	335	7.40	15.0	--	735	10.1	104	--	K1100	--
JUN 04...	1000	E13700	375	7.30	23.0	3.0	745	8.4	100	610	K52	150
AUG 13...	1230	E15500	295	7.10	28.0	7.9	748	--	--	96	100	110

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER DISSOLV FIELD AS HCO3 (MG/L)	CAR- BONATE WATER DISSOLV FIELD AS CO3 (MG/L)	ALKA- LINITY WATER DISSOLV FLD. AS CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
DEC 12...	74	29	7.9	11	2.2	38	0	31	75	14	0.20	5.8
FEB 11...	64	23	6.4	11	1.8	24	0	20	64	13	0.10	5.5
APR 09...	--	--	--	--	--	51	0	40	--	--	--	--
JUN 04...	110	40	11	23	2.4	44	0	36	130	22	0.20	2.9
AUG 13...	76	31	7.8	19	2.4	41	0	34	--	20	--	0.9

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
DEC 12...	169	170	0.010	0.820	0.130	0.130	0.37	0.50	0.090	0.010	<0.010	<10
FEB 11...	143	140	0.010	1.10	0.100	0.110	0.60	0.70	0.050	<0.010	<0.010	--
APR 09...	--	--	0.040	0.860	0.220	0.230	0.48	0.70	0.050	0.040	<0.010	--
JUN 04...	265	250	0.040	0.700	0.110	0.110	0.49	0.60	0.060	0.020	0.050	--
AUG 13...	194	180	0.020	0.620	<0.010	<0.010	--	0.70	0.060	0.030	0.010	100

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC 12...	<1	51	<0.5	<1	1	<3	1	33	1	10	240
FEB 11...	--	--	--	--	--	--	--	--	--	--	--
APR 09...	--	--	--	--	--	--	--	--	--	--	--
JUN 04...	--	--	--	--	--	--	--	--	--	--	--
AUG 13...	<1	50	0.8	<1	<1	<3	4	7	<5	11	2

K Results based on colony count outside the acceptable (non-ideal colony count).

OHIO RIVER MAIN STEM

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued
(National Stream-quality accounting network station)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDIMENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 12...	0.1	<10	7	<1	<1	140	<6	9	57	18800	17
FEB 11...	--	--	--	--	--	--	--	--	38	9030	28
APR 09...	--	--	--	--	--	--	--	--	7	556	58
JUN 04...	--	--	--	--	--	--	--	--	10	370	54
AUG 13...	0.1	<10	1	<1	<1	160	<6	18	14	586	47

MIDDLE ISLAND CREEK BASIN

03114500 MIDDLE ISLAND CREEK AT LITTLE, WV

LOCATION.--Lat 39°28'30", long 80°59'50", Tyler County, Hydrologic Unit 05030201, on right bank at downstream side of highway bridge at Little, 0.1 mi upstream from Stewarts Run, 5.0 mi west of Middlebourne, and at mile 24.5.

DRAINAGE AREA.--458 mi².

PERIOD OF RECORD.--May 1915 to September 1916, October 1916 to September 1922 (gage heights only), October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 631.32 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to July 11, 1947, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--59 years (water years 1916, 1929-86), 639 ft³/s, 18.95 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s, June 26, 1950, gage height, 28.0 ft, from floodmarks; no flow during parts of 1922 and Sept. 1 to Nov. 4, Nov. 7-10, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1875 reached a stage of about 33.5 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	1900	*24,200	*25.12	Feb. 18	1300	11,500	14.53
Feb. 5	1100	10,300	13.47	Mar. 15	0900	9,820	13.10

Minimum discharge, 0.20 ft³/s, Sept. 24, 25, 26, gage height, 1.65 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	34	1030	142	343	446	142	206	44	264	44	19
2	1.8	31	772	159	944	437	129	184	34	768	36	16
3	2.0	52	577	186	1730	457	118	162	28	1700	30	15
4	2.2	6850	403	220	4990	627	112	139	22	841	24	13
5	2.1	22000	336	239	9390	1090	101	118	20	326	21	11
6	1.9	10900	378	208	4070	1230	116	107	17	180	17	9.7
7	1.8	1220	662	185	2690	1390	849	139	18	113	19	7.1
8	1.7	783	648	188	2500	926	665	221	21	81	21	6.2
9	1.6	544	514	126	1360	841	483	194	20	90	36	5.1
10	1.6	370	409	97	894	1480	995	137	57	697	23	4.4
11	1.4	334	420	91	701	2250	903	103	68	370	16	3.7
12	.79	741	1950	96	589	1780	617	84	409	219	19	3.4
13	.72	1460	2370	98	442	2700	428	72	183	173	21	3.4
14	.87	2320	3190	88	494	4030	332	70	77	226	15	2.4
15	1.3	1540	1520	85	504	8340	294	79	56	230	11	2.1
16	1.4	2630	863	70	442	2760	328	78	39	201	8.6	1.6
17	1.5	1520	608	70	1660	1320	304	72	30	290	8.0	1.1
18	1.6	838	447	77	9810	862	314	76	27	181	7.6	.82
19	1.9	530	316	137	3460	741	272	82	29	113	8.0	.75
20	15	383	271	2520	2220	693	238	78	31	72	7.6	.48
21	218	293	235	1780	1740	496	374	159	26	56	7.1	.28
22	618	243	240	1360	1740	380	1140	169	37	48	6.2	.27
23	252	842	200	2570	1200	324	1270	124	75	38	5.4	.26
24	151	749	211	1730	878	287	908	109	51	36	9.7	.20
25	152	461	230	1160	709	251	607	92	31	43	15	.21
26	235	389	202	1030	601	219	466	71	22	38	153	.28
27	186	4980	195	1140	614	204	397	59	18	36	92	.22
28	112	8340	192	804	527	195	333	60	203	169	54	1640
29	71	5070	169	738	---	183	276	66	790	172	37	698
30	52	1870	154	589	---	166	237	58	558	94	28	245
31	41	---	139	457	---	152	---	51	---	61	21	---
TOTAL	2132.48	78317	19851	18440	57242	37257	13748	3419	3041	7926	821.2	2732.75
MEAN	68.8	2611	640	595	2044	1202	458	110	101	256	26.5	91.1
MAX	618	22000	3190	2570	9810	8340	1270	221	790	1700	153	1640
MIN	.72	31	139	70	343	152	101	51	17	36	5.4	.20
CFSM	.15	5.70	1.40	1.30	4.46	2.62	1.00	.24	.22	.56	.06	.20
IN.	.17	6.36	1.61	1.50	4.65	3.03	1.12	.28	.25	.64	.07	.22

CAL YR 1985	TOTAL	241659.68	MEAN 662	MAX 22000	MIN .32	CFSM 1.45	IN 19.63
WTR YR 1986	TOTAL	244927.43	MEAN 671	MAX 22000	MIN .20	CFSM 1.47	IN 19.89

OHIO RIVER MAIN STEM

03150800 OHIO RIVER NEAR MARIETTA, OH

LOCATION.--Lat 39°23'21", long 81°29'03", Washington County, Hydrologic Unit 05030202, on right bank 1.5 mi southwest of Marietta, 2.0 mi downstream from Muskingum River, and at mile 174.3 measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--35,600 mi², approximately.

PERIOD OF RECORD.--October 1968 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 567.12 ft, Sandy Hook datum.

REMARKS.--U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 38.52 ft, Feb. 27, 1979; minimum, 10.83 ft, Oct. 6, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 33.54 ft, Nov. 29; minimum, 14.95 ft, Aug. 19.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.45	15.95	28.50	15.69	16.61	18.94	15.48	15.70	15.30	15.59	15.43	15.20
2	15.49	15.75	24.90	15.75	16.55	18.00	15.59	15.99	15.38	16.53	15.62	15.32
3	15.68	15.55	23.94	15.88	17.95	17.07	15.28	15.58	15.15	17.87	15.45	15.25
4	15.40	17.29	22.66	15.59	21.03	16.73	15.57	15.49	15.17	18.12	15.32	15.30
5	15.17	24.05	21.82	16.12	27.07	16.52	15.41	15.43	15.39	16.80	15.39	15.50
6	15.32	28.24	21.17	15.78	31.22	16.54	15.51	15.63	15.79	15.97	15.63	15.51
7	15.58	30.32	20.97	16.09	31.64	16.39	15.79	15.35	15.72	15.45	15.58	15.30
8	15.68	24.65	20.56	15.53	27.14	16.20	15.94	15.58	16.58	15.63	15.61	15.25
9	15.73	19.88	19.44	15.71	24.01	15.96	15.76	15.69	16.26	16.14	15.20	15.30
10	15.76	18.57	19.01	15.68	22.52	15.97	16.05	15.55	15.92	17.29	15.73	15.33
11	15.59	19.68	18.81	15.65	21.53	17.94	15.69	15.27	16.10	18.28	15.87	15.32
12	15.35	21.56	22.42	15.59	20.82	19.86	15.71	15.25	16.53	17.03	15.30	15.21
13	15.37	23.68	24.26	15.73	20.40	21.27	15.69	15.30	19.28	16.82	15.25	15.54
14	15.26	23.25	24.64	15.53	19.56	21.35	16.03	15.24	18.87	16.68	15.56	15.79
15	15.18	22.73	23.84	15.62	19.06	23.37	15.76	15.48	17.69	16.40	15.19	15.94
16	15.20	25.91	22.17	15.35	18.48	25.18	15.85	15.43	16.93	16.12	15.51	15.83
17	15.33	31.12	20.42	15.29	17.93	24.49	16.36	15.51	17.12	16.04	15.61	15.56
18	15.58	30.44	20.22	15.58	21.46	21.81	16.83	15.32	17.25	15.99	15.58	15.67
19	15.91	24.49	19.22	15.91	23.66	21.85	17.16	15.28	16.90	15.57	15.07	15.82
20	15.83	21.88	18.08	18.18	25.02	20.64	17.18	15.45	16.62	15.97	15.22	15.80
21	16.04	21.25	17.24	21.65	25.27	19.89	16.71	15.57	16.25	17.54	15.37	15.66
22	15.66	20.08	16.94	23.61	24.57	19.83	17.26	15.69	15.89	18.05	15.33	15.42
23	15.21	19.92	16.34	22.15	24.28	19.13	17.78	15.88	15.73	17.80	15.23	15.42
24	15.61	20.12	16.59	21.89	22.34	18.19	17.82	15.41	15.85	16.77	15.51	15.62
25	15.42	19.98	16.82	21.30	21.40	17.09	17.57	15.35	15.49	15.95	15.15	15.80
26	15.67	18.93	16.20	20.38	21.01	17.06	16.97	15.41	15.35	15.97	15.28	15.82
27	15.65	25.99	15.95	19.71	20.54	16.40	16.21	15.38	15.54	15.61	15.27	15.89
28	15.42	30.67	15.75	18.55	19.87	16.31	15.67	15.40	15.92	15.57	15.12	16.01
29	15.21	33.41	15.61	17.79	---	16.15	16.24	15.32	15.57	15.61	15.05	16.21
30	15.24	32.60	15.81	16.87	---	16.09	16.17	15.56	15.96	15.24	15.21	15.71
31	15.58	---	15.78	16.49	---	15.75	---	15.75	---	15.19	15.30	---
MEAN	15.50	23.26	19.87	17.31	22.25	18.64	16.23	15.49	16.25	16.44	15.39	15.58
MAX	16.04	33.41	28.50	23.61	31.64	25.18	17.82	15.99	19.28	18.28	15.87	16.21
MIN	15.17	15.55	15.61	15.29	16.55	15.75	15.28	15.24	15.15	15.19	15.05	15.20

WTR YR 1986 MEAN 17.65 MAX 33.41 MIN 15.05

LITTLE KANAWHA RIVER BASIN

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV

LOCATION.--Lat $38^{\circ}44'35''$, long $80^{\circ}31'36''$, Braxton County, Hydrologic Unit 05030203, on right bank on State Secondary Route 24/1, 200 ft upstream from footbridge at Gregory, 3.9 mi west of Wildcat, and at mile 138.6.

DRAINAGE AREA.--112 mi².

PERIOD OF RECORD.--December 1973 to September 1983, October 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 850.00 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 20-23, 25, 27, 29-31, Jan. 1-19, and Feb. 14, 15. Records fair except for periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--10 years (water years 1975-83, 1986), 236 ft³/s, 28.62 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s, Nov. 5, 1985, gage height, 14.81 ft; minimum, 0.50 ft³/s, Oct. 1, 1985, gage height, 3.33 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	0130	*10,500	*14.81	Feb. 17	2400	4,770	10.89
Nov. 27	1900	3,290	9.56	Mar. 15	0900	2,360	8.57
Nov. 29	0030	6,870	12.45	July 3	0430	3,780	10.03
Feb. 4	1130	2,700	8.95				

Minimum discharge, 0.50 ft³/s, Oct. 1, gage height, 3.33 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.50	11	470	68	159	305	59	145	21	221	25	23
2	.70	9.4	337	72	419	291	56	127	17	1850	21	20
3	.80	8.3	233	80	816	281	53	100	15	2410	19	12
4	1.0	2260	182	87	2170	281	50	84	14	632	17	11
5	1.3	5720	172	92	1100	281	48	76	13	337	21	11
6	1.7	1460	264	88	705	291	59	70	14	236	11	12
7	2.6	680	261	81	570	319	566	65	21	159	8.8	11
8	2.8	374	242	73	461	291	410	72	20	125	13	10
9	2.4	240	233	65	359	291	302	62	24	100	53	8.4
10	2.2	174	236	58	288	641	288	50	22	440	56	7.0
11	1.7	136	245	54	261	1330	286	42	14	315	45	5.8
12	1.5	116	641	51	202	805	282	37	13	291	40	5.4
13	1.1	121	1430	48	164	535	255	36	13	227	33	5.8
14	1.1	230	1280	46	150	521	203	40	11	177	25	6.2
15	1.0	203	614	44	160	1930	179	35	9.3	152	19	5.8
16	1.1	172	390	42	182	954	190	28	7.9	129	15	5.0
17	1.3	184	278	40	1590	562	219	23	6.6	108	19	4.1
18	1.5	162	209	50	2800	402	309	58	5.4	86	12	3.4
19	2.4	140	138	100	1220	246	326	41	4.4	70	11	3.0
20	5.0	120	115	741	767	192	274	145	5.8	55	9.3	3.0
21	70	100	100	507	590	152	278	150	7.5	212	8.4	4.7
22	79	789	90	743	646	122	595	118	10	237	8.4	5.4
23	78	1000	105	1010	705	110	838	96	8.8	148	8.8	5.0
24	64	530	100	627	595	100	595	76	8.8	110	22	4.7
25	49	348	94	431	511	86	435	61	25	79	26	4.4
26	39	291	81	427	410	79	359	49	17	61	25	4.1
27	32	1870	85	406	371	83	274	44	11	84	27	9.8
28	26	3790	90	285	333	79	227	42	278	81	17	206
29	20	3140	80	268	---	70	212	36	461	62	38	172
30	16	866	70	209	---	65	167	28	164	46	37	120
31	13	---	65	179	---	62	---	24	---	35	29	---
TOTAL	519.70	25244.7	8930	7072	18704	11757	8394	2060	1262.5	9275	719.7	709.0
MEAN	16.8	841	288	228	668	379	280	66.5	42.1	299	23.2	23.6
MAX	79	5720	1430	1010	2800	1930	838	150	461	2410	56	206
MIN	.50	8.3	65	40	150	62	48	23	4.4	35	8.4	3.0
CFSM	.15	7.51	2.57	2.04	5.96	3.38	2.50	.59	.38	2.67	.21	.21
IN.	.17	8.38	2.97	2.35	6.21	3.90	2.79	.68	.42	3.08	.24	.24

WTR YR 1986 TOTAL 94647.60 MEAN 259 MAX 5720 MIN .50 CFSM 2.31 IN 31.44

LITTLE KANAWHA RIVER BASIN

03151520 LITTLE KANAWHA RIVER BELOW BURNSVILLE DAM, WV

LOCATION.--Lat 38°50'41", long 80°37'45", Braxton County, Hydrologic Unit 05030203, on right bank 2600 ft downstream from Burnsville Dam, 1.6 mi southeast of Burnsville, and at mile 123.7.

DRAINAGE AREA.--163 mi².

PERIOD OF RECORD.--July 1976 to September 1982, October 1982 to current year (gage height, discharge measurements, and annual maximum discharge only).

GAGE.--Water-stage recorder. Datum of gage is 750.00 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers Bench Mark). Prior to Oct. 1, 1983, at datum 50.0 ft lower.

REMARKS.--Records for winter periods not adjusted for ice effect. Flow regulated since 1979 by Burnsville Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--6 years (water years 1977-1982), 305 ft³/s, 25.41 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,560 ft³/s, Nov. 4, 1985, gage height, 11.78 ft; minimum discharge, 3.6 ft³/s, May 26, 1977; minimum gage height, 4.27 ft, Sept. 28, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,560 ft³/s, Nov. 4, gage height, 11.78 ft; minimum gage height, 4.46 ft, Feb. 18.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.73	5.52	7.81	5.55	5.75	6.00	4.92	5.54	4.74	5.62	4.79	4.95
2	4.73	5.52	7.80	5.55	6.10	6.00	4.84	5.37	4.74	6.48	4.74	4.85
3	4.73	5.52	7.80	5.65	6.60	6.11	4.84	5.37	4.75	7.76	4.74	4.76
4	4.73	7.37	7.79	5.76	7.16	6.08	4.82	5.37	4.74	7.62	4.74	4.77
5	4.72	6.39	7.81	5.79	7.42	6.15	4.78	5.37	4.74	7.28	4.74	4.76
6	4.73	5.44	7.75	5.79	7.46	6.16	4.80	5.37	4.74	6.24	4.74	4.76
7	4.72	7.35	7.04	5.73	7.54	6.16	4.87	5.54	4.74	5.35	4.76	4.76
8	4.72	7.46	6.49	5.60	6.90	6.15	4.85	5.63	4.74	5.13	5.34	4.75
9	4.98	7.66	6.32	5.49	6.37	6.05	4.84	5.54	4.74	5.42	5.66	4.75
10	5.26	7.79	6.26	5.42	6.08	6.43	4.84	5.47	4.74	6.33	5.56	4.75
11	5.26	7.77	6.25	5.42	6.08	6.94	4.85	5.37	4.74	6.30	5.42	4.75
12	5.26	7.75	6.56	5.43	6.02	7.27	4.85	5.37	4.74	6.02	5.18	4.76
13	5.26	7.75	7.03	5.43	5.91	6.88	4.84	5.37	4.74	5.88	4.94	4.76
14	5.26	7.74	7.42	5.43	5.74	6.50	4.85	5.37	4.74	5.78	4.75	4.75
15	5.20	7.71	7.36	5.43	5.79	6.92	4.86	5.37	4.74	5.70	4.74	4.75
16	5.24	7.28	6.69	5.42	5.93	7.36	4.86	5.11	4.74	5.31	4.76	4.75
17	5.23	6.55	6.23	5.42	5.52	7.33	4.87	4.84	4.74	5.19	4.76	4.75
18	5.23	6.23	5.74	5.42	5.55	6.98	4.87	4.75	4.74	5.47	4.78	4.76
19	5.23	5.72	5.41	5.50	7.71	6.49	4.88	4.77	4.74	5.44	4.77	4.76
20	5.77	5.86	5.53	5.61	7.96	6.14	5.34	4.75	4.75	4.98	4.74	4.75
21	6.36	5.95	5.63	6.11	7.92	5.91	5.74	5.01	4.74	5.46	4.74	4.75
22	6.35	5.83	5.68	6.73	7.88	5.77	6.32	5.46	4.74	6.03	4.73	4.75
23	6.35	6.44	5.68	7.17	7.88	5.63	6.90	5.76	4.74	5.91	4.74	4.75
24	5.77	6.82	5.63	7.37	7.08	5.63	6.99	5.65	4.75	5.16	4.74	4.75
25	5.55	6.82	5.56	6.82	6.51	5.63	6.60	5.46	4.74	4.83	4.74	4.75
26	5.55	6.78	5.56	6.58	6.35	5.37	6.33	5.39	4.74	4.83	4.74	4.76
27	5.55	5.28	5.56	6.49	6.22	5.17	6.14	5.36	4.75	5.30	4.99	4.98
28	5.39	4.55	5.56	6.36	6.14	5.03	6.01	5.36	4.77	5.65	5.27	5.56
29	5.30	5.38	5.56	6.22	---	4.95	6.01	5.36	5.77	5.55	4.95	5.71
30	5.30	7.58	5.55	6.04	---	4.99	5.85	5.36	5.90	5.06	4.95	5.71
31	5.45	---	5.55	5.69	---	4.95	---	5.00	---	4.86	4.95	---
MEAN	5.29	6.59	6.41	5.88	6.63	6.10	5.35	5.32	4.82	5.74	4.91	4.86
MAX	6.36	7.79	7.81	7.37	7.96	7.36	6.99	5.76	5.90	7.76	5.66	5.71
MIN	4.72	4.55	5.41	5.42	5.52	4.95	4.78	4.75	4.74	4.83	4.73	4.75

WTR YR 1986 MEAN 5.65 MAX 7.96 MIN 4.55

LITTLE KANAWHA RIVER BASIN

03152000 LITTLE KANAWHA RIVER AT GLENVILLE, WV

LOCATION.--Lat 38°55'58", long 80°50'19", Gilmer County, Hydrologic Unit 05030203, on right bank at abandoned bridge on Conrad Court Street at Glenville, 1,400 ft upstream from Sycamore Run, and at mile 103.5. Prior to July 1, 1986, at bridge 400 ft downstream.

DRAINAGE AREA.--386 mi².

PERIOD OF RECORD.--June 1915 to September 1922 (gage heights only), October 1928 to September 1983, October 1983 to September 1984 (gage heights, occasional discharge measurements, and annual maximum discharge only), October 1984 to current year. Monthly discharge only October to December 1928, published in WSP 1305.

REVISED RECORDS.--WSP 783: Drainage area. WSP 1305: 1930, 1932(M). WSP 1435: 1954. WSP 1555: 1947(M). WRD WV-82-1: 1979.

GAGE.--Water-stage recorder. Datum of gage is 697.79 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 14, 1934, nonrecording gage at same site and datum. Prior to July 1, 1986 at site 400 ft downstream and at the same datum. May 25, 1971 to September 1983, and October 1984 to current year, auxiliary water-stage recorder 2.7 mi downstream from base gage at datum 700.23 ft above National Geodetic Vertical Datum of 1929. Prior to May 25, 1971, auxiliary nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 7-16, 23-27, Dec. 1-7, 21-25, 29-31, Jan. 1, 2, 4-7, 9, 12-14, 17, and Feb. 11-15, 20-25. Records fair except for estimated daily discharges, which are poor. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi², and since 1979 by Burnsville Lake. National Weather Service (DARDC) gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--57 years (water years 1929-83, 1985-86), 605 ft³/s, 21.28 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,900 ft³/s, Nov. 5, 1985, gage height, 36.46 ft, from floodmark, from rating curve extended above 18,000 ft³/s; minimum, no flow at times in 1930-33.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 16, 1926, reached a stage of 33.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,900 ft³/s, Nov. 5, gage height, 36.46 ft, from floodmark; minimum daily discharge, 16 ft³/s, Oct. 7-9; minimum gage height, 1.95 ft, June 19, 20, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	81	1900	190	363	605	103	276	64	522	41	47
2	24	87	1600	210	602	590	93	198	36	2260	36	46
3	24	138	1350	227	1000	671	83	167	37	3020	29	43
4	21	6890	1200	235	3130	853	79	154	36	2280	28	46
5	20	23600	1150	240	3870	1010	75	145	34	1910	26	117
6	18	6970	1300	220	2550	1130	109	137	32	900	26	79
7	16	3000	1500	205	2430	1070	1040	135	33	246	29	89
8	16	1650	976	189	2300	843	509	187	47	103	132	57
9	16	1350	766	155	1250	738	311	178	60	130	304	40
10	23	1250	632	141	738	944	288	152	43	1670	214	35
11	38	1200	632	129	620	1970	273	123	37	1060	222	30
12	39	1180	1630	120	550	2170	233	105	37	508	169	34
13	41	1400	2740	125	505	1870	191	107	39	430	95	42
14	46	1550	3510	120	465	1640	172	125	37	333	63	40
15	54	1400	2190	123	425	4330	163	117	33	265	40	34
16	52	1200	1580	119	491	2590	165	107	32	197	54	30
17	45	955	717	110	2990	2020	161	73	30	240	95	28
18	41	677	563	127	8390	1710	165	49	28	235	79	26
19	39	352	229	183	4030	969	163	53	27	186	56	28
20	451	220	207	1210	2900	829	161	273	40	139	45	31
21	1910	295	200	818	2350	374	273	200	47	542	36	29
22	678	599	215	1540	2000	393	569	158	37	530	35	28
23	554	2200	230	2220	1750	249	1510	158	32	368	39	28
24	399	1500	210	2270	1450	238	1500	268	32	217	102	30
25	125	1000	200	1940	1050	224	1270	141	31	92	102	30
26	108	800	187	1280	934	213	783	119	28	62	62	30
27	100	2500	187	1480	773	165	695	107	27	56	46	409
28	95	6500	191	983	752	150	473	109	329	119	68	805
29	69	5850	180	832	---	123	437	103	524	166	92	344
30	61	2410	160	686	---	113	382	97	662	117	57	246
31	59	---	170	536	---	107	---	93	---	63	49	---
TOTAL	5201	78804	28502	18963	50658	30901	12429	4414	2511	18966	2471	2901
MEAN	168	2627	919	612	1809	997	414	142	83.7	612	79.7	96.7
MAX	1910	23600	3510	2270	8390	4330	1510	276	662	3020	304	805
MIN	16	81	160	110	363	107	75	49	27	56	26	26
CAL YR 1985	TOTAL	238961	MEAN 655	MAX 23600	MIN 13							
WTR YR 1986	TOTAL	256721	MEAN 703	MAX 23600	MIN 16							

LITTLE KANAWHA RIVER BASIN

03153500 LITTLE KANAWHA RIVER AT GRANTSVILLE, WV

LOCATION.--Lat 38°55'20", long 81°05'50", Calhoun County, Hydrologic Unit 05030203, on left bank 1,000 ft downstream from bridge on State Highway 16 at Grantsville, 1,200 ft downstream from Philip Run, and at mile 80.0.

DRAINAGE AREA.--913 mi².

PERIOD OF RECORD.--October 1928 to September 1978. Monthly discharge only October to December 1928, published in WSP 1305. October 1978 to current year (gage heights, discharge measurements, and annual maximum discharge only).

REVISED RECORDS.--WSP 1275: 1929(M), 1932-36.

GAGE.--Water-stage recorder. Datum of gage is 652.83 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Nov. 21, 1934, nonrecording gage at same site and datum.

REMARKS.--Records for winter periods not adjusted for ice effect. U.S. Army Corps of Engineers satellite telemeter and National Weather Service Hydrologger at station. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi² and since 1979 by Burnsville Lake.

AVERAGE DISCHARGE.--50 years (water years 1929-1978), 1,328 ft³/s, 19.75 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,100 ft³/s, Mar. 7, 1967, gage height, 43.9 ft, from floodmarks; no flow Sept. 10 to Nov. 16, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33,700 ft³/s, Nov. 5, gage height, a 42.87 ft; minimum gage height, 6.47 ft, Aug. 7.

a Peak-stage indicator.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.32	7.20	14.43	7.83	8.81	10.22	7.51	8.48	7.24	9.65	6.89	6.76
2	6.37	7.26	13.54	8.08	10.20	10.07	7.45	8.19	7.01	12.87	6.72	6.71
3	6.39	7.42	12.86	8.13	11.83	10.32	7.39	7.86	6.80	15.73	6.65	6.68
4	6.43	18.13	12.47	8.24	18.43	11.08	7.33	7.69	6.74	13.46	6.59	6.68
5	6.39	40.62	12.27	8.30	20.87	12.27	7.30	7.58	6.75	11.85	6.54	6.72
6	6.36	38.26	12.92	8.21	16.48	12.46	7.82	7.52	6.68	10.54	6.50	6.72
7	6.34	18.82	13.54	8.11	16.74	12.72	12.46	7.54	6.68	8.70	6.51	6.72
8	6.32	13.39	11.48	7.94	16.27	11.42	10.80	7.69	7.10	7.64	7.28	6.72
9	6.31	12.37	10.42	7.76	12.86	11.00	9.45	7.92	7.33	7.15	8.78	6.72
10	6.31	12.31	9.76	7.63	11.05	11.53	9.17	7.59	7.10	12.62	8.18	6.70
11	6.30	12.26	9.58	7.57	10.49	14.61	9.01	7.44	6.87	11.09	7.99	6.63
12	6.49	12.18	13.00	7.54	10.14	14.86	8.74	7.27	6.79	9.97	7.97	6.60
13	6.61	12.36	16.45	7.52	9.72	13.79	8.42	7.40	6.76	9.21	7.49	6.60
14	6.64	13.42	19.78	7.56	9.54	14.50	8.18	7.82	6.74	8.80	7.09	6.60
15	6.69	13.00	14.96	7.50	9.78	21.74	8.05	7.68	6.71	8.81	6.89	6.60
16	6.75	12.38	13.00	7.49	9.54	17.14	8.05	7.46	6.65	8.20	6.79	6.60
17	7.08	11.03	10.95	7.37	16.18	14.07	8.04	7.30	6.62	8.15	6.85	6.57
18	7.02	9.71	9.94	7.40	32.19	12.83	8.05	7.13	6.57	8.76	6.95	6.53
19	6.99	8.97	8.87	7.60	23.71	11.52	7.98	7.18	6.52	7.96	6.93	6.53
20	8.56	8.29	8.27	11.16	18.50	10.64	7.91	9.03	7.27	7.64	6.80	6.51
21	16.42	8.06	8.24	11.48	15.94	9.53	8.11	9.09	7.31	8.23	6.72	6.50
22	11.76	11.29	8.18	12.65	15.15	8.95	9.21	8.17	6.92	9.26	6.67	6.50
23	9.99	16.80	8.26	16.35	14.31	8.66	12.20	7.88	6.77	8.55	6.66	6.50
24	9.46	12.35	8.23	14.59	13.69	8.39	12.03	7.85	6.68	8.09	7.21	6.50
25	8.58	11.26	8.20	13.36	11.72	8.23	11.37	7.87	6.60	7.49	7.73	6.50
26	7.97	10.75	7.92	12.96	11.11	8.11	10.55	7.39	6.57	7.73	7.33	6.50
27	7.79	20.19	7.91	13.29	10.83	8.03	10.22	7.32	6.54	8.70	7.01	6.50
28	7.64	28.79	7.89	11.29	10.56	7.87	9.47	7.31	6.98	7.63	6.93	6.50
29	7.53	27.70	7.94	10.74	---	7.76	9.06	7.26	10.59	7.45	6.93	7.85
30	7.35	16.59	7.87	9.99	---	7.63	8.83	7.17	9.15	7.44	6.98	8.59
31	7.24	---	7.81	9.17	---	7.56	---	7.41	---	7.15	6.86	---
MEAN	7.56	15.11	10.87	9.51	14.17	11.27	9.01	7.69	7.03	9.24	7.08	6.71
MAX	16.42	40.62	19.78	16.35	32.19	21.74	12.46	9.09	10.59	15.73	8.78	8.59
MIN	6.30	7.20	7.81	7.37	8.81	7.56	7.30	7.13	6.52	7.15	6.50	6.50

WTR YR 1986 MEAN 9.57 MAX 40.62 MIN 6.30

LITTLE KANAWHA RIVER BASIN

03154000 WEST FORK LITTLE KANAWHA RIVER AT ROCKSDALE, WV

LOCATION.--Lat 38°50'48", long 81°13'26", Calhoun County, Hydrologic Unit 05030203, on right bank on State Route 11, 850 ft downstream from Henry Fork at Rocksdales, 9.0 mi southwest of Grantsville, and at mile 14.1.

DRAINAGE AREA.--205 mi².

PERIOD OF RECORD.--October 1928 to September 1931, October 1937 to September 1975 (monthly discharge only for some periods, published in WSP 1305), October 1975 to current year (gage heights, occasional discharge measurements, and annual maximum discharge only).

REVISED RECORDS.--WSP 953: 1929-31, 1938(M), 1939. WSP 1275: 1950.

GAGE.--Water-stage recorder. Datum of gage is 657.85 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to June 16, 1966, nonrecording gage, crest-stage gage Nov. 4, 1946, to June 15, 1966, on bridge 800 ft upstream at same datum.

REMARKS.--Records for winter periods not adjusted for ice effect. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--41 years (water years 1929-31, 1938-75), 258 ft³/s, 17.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,200 ft³/s, Apr. 16, 1939, gage height, 30.3 ft, from floodmarks, site then in use, from rating curve extended above 13,000 ft³/s; no flow at times during 1930, 1931, 1954, 1957, 1959, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,050 ft³/s, Feb. 17, gage height, 24.31 ft; minimum gage height, 2.94 ft, Aug. 7.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.13	3.33	6.29	4.42	4.93	5.82	4.20	4.70	3.68	3.30	3.14	3.22
2	3.35	3.34	5.93	4.48	5.98	5.66	4.15	4.57	3.58	5.92	3.08	3.16
3	3.29	3.65	5.26	4.61	6.12	5.69	4.11	4.37	3.50	5.57	3.06	3.14
4	3.19	12.03	4.95	4.62	12.64	6.04	4.08	4.23	3.45	4.34	3.03	3.28
5	3.14	19.66	4.86	4.56	9.26	6.40	4.05	4.16	3.40	3.89	3.00	4.00
6	3.12	8.94	5.78	4.40	7.69	6.63	4.54	4.13	3.37	3.66	2.97	3.91
7	3.09	6.38	6.00	4.29	9.43	6.91	6.39	4.11	3.46	3.50	2.95	3.63
8	3.12	5.55	5.64	4.28	8.02	6.19	5.55	5.08	4.72	3.40	3.11	3.44
9	3.09	4.98	5.32	4.01	6.64	6.07	5.17	4.81	4.22	3.37	4.47	3.32
10	3.08	4.63	5.03	3.94	6.02	5.90	5.03	4.36	3.79	4.28	3.80	3.24
11	3.08	4.45	5.04	4.01	5.84	7.35	4.88	4.15	3.59	4.31	3.60	3.17
12	3.08	4.56	7.10	4.01	5.55	6.92	4.72	4.03	3.63	6.13	3.43	3.31
13	3.09	4.77	9.72	4.04	5.44	6.55	4.57	4.10	3.64	5.14	3.34	3.61
14	3.10	6.11	9.60	3.93	5.52	7.93	4.47	4.37	3.52	4.65	3.26	3.62
15	3.15	5.33	6.84	3.90	5.62	11.28	4.44	4.24	3.42	4.91	3.18	3.41
16	3.34	4.87	6.04	3.83	5.55	7.88	4.48	4.05	3.35	4.39	3.13	3.29
17	3.35	4.66	5.61	3.84	13.93	6.65	4.56	3.90	3.36	4.02	3.12	3.20
18	3.24	4.41	5.22	3.98	17.38	6.06	4.63	3.82	3.30	3.80	3.26	3.15
19	3.15	4.26	4.73	4.65	10.48	5.83	4.48	4.35	3.23	3.63	3.29	3.15
20	4.42	4.15	4.71	5.88	8.77	5.52	4.43	6.66	3.41	3.52	3.60	3.71
21	6.81	4.04	4.58	5.62	7.25	5.15	4.68	5.93	3.64	3.52	3.34	3.92
22	4.72	7.78	4.49	7.82	6.85	4.92	5.17	5.10	3.51	3.45	3.23	3.61
23	4.26	8.16	4.50	8.48	6.33	4.82	5.82	4.70	3.40	3.37	3.21	3.44
24	3.96	6.01	4.49	6.75	6.05	4.73	5.53	4.45	3.30	3.28	3.86	3.36
25	3.83	5.31	4.43	6.18	6.33	4.58	5.24	4.24	3.21	3.22	3.76	3.44
26	3.73	5.00	4.30	7.27	6.20	4.50	6.02	4.07	3.16	3.19	3.49	3.85
27	3.63	12.85	4.26	6.70	6.17	4.49	5.97	4.05	3.18	3.21	3.38	6.52
28	3.53	17.26	4.25	5.82	6.07	4.43	5.51	4.14	3.27	3.30	3.74	7.63
29	3.45	13.53	4.19	5.82	---	4.34	5.16	4.00	3.36	3.43	3.63	5.05
30	3.40	7.64	4.23	5.29	---	4.29	4.86	3.83	3.29	3.29	3.45	4.30
31	3.36	---	4.19	5.04	---	4.25	---	3.75	---	3.20	3.31	---
MEAN	3.53	6.92	5.41	5.05	7.57	5.93	4.90	4.40	3.50	3.94	3.36	3.77
MAX	6.81	19.66	9.72	8.48	17.38	11.28	6.39	6.66	4.72	6.13	4.47	7.63
MIN	3.08	3.33	4.19	3.83	4.93	4.25	4.05	3.75	3.16	3.19	2.95	3.14

WTR YR 1986 MEAN 4.83 MAX 19.66 MIN 2.95

LITTLE KANAWHA RIVER BASIN

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV
(National stream-quality accounting network station)

LOCATION.--Lat 39°03'35", long 81°23'25", Wirt County, Hydrologic Unit 05030203, on left bank at end of Washington Street in Elizabeth, 1.0 mi upstream from Tucker Creek, 2.3 mi northeast of Palestine, 2.4 mi upstream from old lock 3, and at mile 27.9.

DRAINAGE AREA.--1,515 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1915 to September 1922 (gage heights only), July to September 1939 (fragmentary), October 1939 to current year. Monthly discharge only October 1939 to September 1941, published in WSP 1305.

REVISED RECORDS.--WSP 953: 1940(M).

GAGE.--Water-stage recorder. Datum of gage is 585.51 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 17, 1950, water-stage recorders or nonrecording gages at old locks 3 and 4 at various datums. Auxiliary water-stage recorder 3.0 mi upstream from base gage at old lock 4 at datum 596.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 21, Jan. 31, and Feb. 1, 13, 15, 16. Records good except for periods with ice effect, which are poor. Flow partially regulated since 1968 by five floodwater-detention reservoirs affecting 49.5 mi², and since 1979 by Burnsville Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years, 2,114 ft³/s, 18.95 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,700 ft³/s, Mar. 7, 1967, gage height, 39.14 ft, backwater, from rating curve extended above 39,000 ft³/s; minimum, 0.6 ft³/s, July 14, 1959 (filling pool above old lock 3).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 17, 1939, reached a stage of 32.25 ft, from floodmarks at old lock 4, discharge about 53,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 39,800 ft³/s, adjusted for backwater, Nov. 6, gage height, 34.43 ft; minimum, 29 ft³/s, Oct. 1, gage height, 13.55 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	208	6450	669	1380	2360	510	1130	265	979	253	175
2	52	186	5040	719	1420	2150	476	979	283	1390	200	157
3	50	204	4050	816	2790	2160	440	834	244	4410	157	121
4	55	5660	3390	890	10000	2640	417	677	200	4760	116	104
5	75	33300	3100	920	16100	3570	388	567	164	2910	89	112
6	78	38100	3370	843	11300	4120	434	496	139	2150	75	212
7	75	28100	4340	843	9410	4830	2130	470	139	1460	75	320
8	72	6330	4050	669	10000	4030	3710	1080	139	891	92	292
9	66	3710	2520	553	6500	3040	2080	969	208	496	130	220
10	63	2930	1990	517	3800	2880	1530	816	301	405	582	175
11	60	2880	1680	489	2720	4360	1340	621	283	2810	677	149
12	58	2820	3330	470	2330	7090	1230	470	228	2030	503	125
13	55	3040	7490	460	1970	6070	1080	417	182	1610	452	112
14	55	3590	13200	383	1780	6710	939	489	157	1170	388	104
15	69	4050	9030	377	1760	13900	862	645	134	939	274	116
16	130	3330	5190	361	1820	13100	798	613	116	949	204	134
17	175	2880	3630	361	5880	7160	798	496	108	736	168	116
18	182	1910	2280	372	28800	4760	825	400	100	538	139	100
19	200	1380	1700	422	27500	3650	807	377	89	780	157	85
20	422	1080	1220	1310	14800	2640	762	1320	157	590	208	75
21	7420	825	890	3510	9230	2050	853	2330	669	405	208	66
22	5770	762	780	4100	7050	1460	1100	1450	422	417	168	85
23	2030	7230	920	7800	6090	1230	1790	969	274	929	144	112
24	1320	5520	969	7120	5110	1090	3270	762	197	762	208	121
25	1050	2970	890	5210	4480	949	2840	637	149	560	236	108
26	816	2340	753	4640	3140	871	2640	629	108	428	310	108
27	517	11500	685	4780	2880	825	2410	470	82	1090	356	372
28	394	25600	780	3840	2610	789	1960	383	112	949	265	3510
29	325	29600	719	2310	---	702	1530	367	440	531	200	3390
30	283	16400	629	2410	---	637	1270	335	1410	320	182	1360
31	248	---	598	1580	---	567	---	292	---	279	175	---
TOTAL	22205	248435	95663	59744	202650	112390	41219	22490	7499	38673	7391	12236
MEAN	716	8281	3086	1927	7238	3625	1374	725	250	1248	238	408
MAX	7420	38100	13200	7800	28800	13900	3710	2330	1410	4760	677	3510
MIN	40	186	598	361	1380	567	388	292	82	279	75	66

CAL YR 1985 TOTAL 878752 MEAN 2408 MAX 38100 MIN 26
WTR YR 1986 TOTAL 870595 MEAN 2385 MAX 38100 MIN 40

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965-67, 1976 to current year.

REMARKS.--Lab analyses performed by West Virginia Department of Natural Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
DEC 10...	1130	1970	102	6.90	8.0	14	--	11.6	--	290	200	36
FEB 10...	1240	3750	100	7.10	5.5	25	--	11.8	--	400	210	33
APR 07...	1300	1850	140	7.20	18.0	--	742	8.5	92	5000	5600	--
JUN 02...	1330	288	153	7.20	23.5	6.0	--	7.9	--	K48	K67	59
AUG 12...	1120	503	134	7.10	24.5	34	750	6.6	81	110	K56	50

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER DISSOLV FIELD AS HCO3 (MG/L)	CAR- BONATE WATER DISSOLV FIELD AS CO3 (MG/L)	ALKA- LINITY WATER DISSOLV FLD. AS CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
DEC 10...	18	10	2.7	3.9	1.7	22	0	18	15	5.6	<0.10	6.2
FEB 10...	20	9.1	2.4	3.3	1.1	16	0	13	16	5.0	<0.10	6.0
APR 07...	--	--	--	--	--	41	0	34	--	--	--	--
JUN 02...	29	17	4.0	7.9	1.9	45	0	37	22	9.4	<0.10	2.3
AUG 12...	14	14	3.5	7.0	2.1	44	0	36	17	8.6	0.20	3.3

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPHOS- PHATE, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
DEC 10...	68	56	<0.010	0.330	0.020	0.030	0.28	0.30	0.030	<0.010	<0.010	<10
FEB 10...	52	51	<0.010	0.470	0.020	0.040	0.38	0.40	0.040	<0.010	<0.010	--
APR 07...	--	--	<0.010	0.290	--	--	--	0.60	0.050	0.030	<0.010	--
JUN 02...	93	90	<0.010	<0.100	0.020	<0.010	0.38	0.40	0.030	0.010	<0.010	--
AUG 12...	89	79	<0.010	0.140	0.040	0.010	0.26	0.30	0.030	<0.010	<0.010	100

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC 10...	<1	47	<0.5	<1	<1	<3	2	43	<1	<4	16
FEB 10...	--	--	--	--	--	--	--	--	--	--	--
APR 07...	--	--	--	--	--	--	--	--	--	--	--
JUN 02...	--	--	--	--	--	--	--	--	--	--	--
AUG 12...	<1	63	0.8	<1	<1	<3	4	56	<5	<4	13

K Results based on colony count outside the acceptable (non-ideal colony count).

LITTLE KANAWHA RIVER BASIN

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 10...	--	<10	1	<1	<1	61	<6	12	9	48	81
FEB 10...	--	--	--	--	--	--	--	--	38	385	81
APR 07...	--	--	--	--	--	--	--	--	192	959	100
JUN 02...	--	--	--	--	--	--	--	--	14	11	98
AUG 12...	0.1	<10	1	<1	<1	91	<6	8	37	50	99

LITTLE KANAWHA RIVER BASIN

03155500 HUGHES RIVER AT CISCO, WV

LOCATION.--Lat 39°07'10", long 81°16'40", Ritchie County, Hydrologic Unit 05030203, on right bank 100 ft downstream from confluence of North and South Forks, 1.0 mi upstream from Cisco, 5.0 mi south of Petroleum, and at mile 14.0.

DRAINAGE AREA.--452 mi².

PERIOD OF RECORD.--May 1915 to September 1922 (gage heights only), October 1928 to September 1931, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305. Prior to October 1965, published as "at Cisco."

REVISED RECORDS.--WSP 893: 1939. WSP 1113: 1947.

GAGE.--Water-stage recorder. Datum of gage is 607.92 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Sept. 30, 1931, nonrecording gage at site 0.9 mi downstream and Mar. 5, 1939, to Sept. 30, 1945, nonrecording gage at site 1.0 mi downstream, both at datum 2.56 ft lower. Oct. 1, 1945, to June 30, 1946, nonrecording gage at bridge across mouth of North Fork at present datum.

REMARKS.--Estimated daily discharges: Dec. 19-22, 26, 28-31, Jan. 13-16, 30, 31, and Feb. 1, 14-16. Records good except for periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--51 years, 576 ft³/s, 17.31 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,700 ft³/s, June 26, 1950, gage height, 32.69 ft; no flow July 26, Aug. 2-6, Sept. 4 to Dec. 5, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	1630	*24,800	*30.87	Feb. 18	0730	11,100	19.73
Nov. 27	1900	9,770	18.36				

Minimum discharge, 3.2 ft³/s, Oct. 1, gage height, 1.72 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	45	895	124	305	419	129	171	80	895	22	29
2	5.5	40	700	141	565	451	127	152	63	1320	17	26
3	5.0	78	545	155	955	540	108	132	45	1530	14	22
4	5.0	4470	407	176	2140	770	98	107	37	555	11	20
5	5.5	21300	351	188	4210	1260	95	89	33	248	8.5	18
6	11	7980	447	213	2490	1150	190	86	30	147	6.5	17
7	7.5	1260	670	188	2380	1320	1260	103	30	95	5.5	15
8	5.5	780	600	161	2070	810	653	551	33	69	35	14
9	4.6	575	477	158	1030	760	436	272	100	58	38	12
10	3.9	415	375	112	690	1030	494	166	84	535	61	11
11	4.1	359	335	95	595	1480	420	112	56	311	78	9.0
12	4.1	550	1030	82	535	1300	339	84	47	170	67	9.5
13	4.6	940	1710	91	455	1680	273	76	51	122	45	11
14	5.0	1410	2420	93	445	2420	227	88	65	147	26	13
15	6.5	835	1200	89	435	4400	216	90	50	127	19	12
16	7.5	550	695	76	455	2250	230	83	35	84	14	12
17	7.5	550	525	69	2140	1080	233	74	26	227	29	11
18	9.5	459	423	84	8670	599	235	110	20	359	30	9.0
19	15	363	295	206	2910	553	209	94	27	152	20	8.5
20	176	295	255	1290	2360	492	185	1360	220	91	595	9.0
21	2330	241	240	1260	1400	375	370	947	199	70	206	10
22	966	255	210	1290	1260	299	665	407	91	53	89	9.5
23	319	855	192	2220	895	265	803	259	58	55	95	8.0
24	185	620	209	1360	685	241	612	185	40	38	1080	8.0
25	267	427	227	875	595	209	451	141	28	28	311	9.5
26	283	482	195	880	550	184	422	109	20	351	152	25
27	170	6190	167	925	555	176	381	93	16	319	91	1360
28	112	7350	165	575	482	177	305	93	112	91	74	2420
29	80	4480	155	545	---	169	249	91	920	58	61	535
30	65	1730	135	435	---	156	203	80	371	40	48	230
31	53	---	120	335	---	140	---	67	---	29	36	---
TOTAL	5127.2	65884	16370	14491	42257	27155	10618	6472	2987	8374	3384.5	4903.0
MEAN	165	2196	528	467	1509	876	354	209	99.6	270	109	163
MAX	2330	21300	2420	2220	8670	4400	1260	1360	920	1530	1080	2420
MIN	3.9	40	120	69	305	140	95	67	16	28	5.5	8.0
CFSM	.37	4.86	1.17	1.03	3.34	1.94	.78	.46	.22	.60	.24	.36
IN.	.42	5.42	1.35	1.19	3.48	2.23	.87	.53	.25	.69	.28	.40

CAL YR 1985	TOTAL	216311.5	MEAN 593	MAX 21300	MIN 2.7	CFSM 1.31	IN 17.80
WTR YR 1986	TOTAL	208022.7	MEAN 570	MAX 21300	MIN 3.9	CFSM 1.26	IN 17.12

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA
(National stream-quality accounting network station)

LOCATION.--Lat 37°22'22", long 80°51'39", Giles County, Hydrologic Unit 05050002, on right bank 90 ft (revised) upstream from bridge on U.S. Highway 460 at Glen Lyn, 0.3 mi upstream from East River, and 6.3 mi downstream from Wolf Creek.

DRAINAGE AREA.--3,768 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1927 to current year.

REVISED RECORDS.--WSP 758: Drainage area. WSP 1305: 1928(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 1,490.24 ft above National Geodetic Vertical Datum of 1929.

Aug. 11, 1927, to Oct. 16, 1934, on left bank just upstream from highway bridge at same datum, and Oct. 17, 1934, to June 16, 1939, on left bank 200 ft upstream from highway bridge at same datum.

REMARKS.--Estimated daily discharges: Oct. 1-3, 6-28, Oct. 30 to Nov. 1, and Jan. 26, 27. Records fair except those for periods of doubtful or no gage-height record, Oct. 1-3, 6-28, Oct. 30 to Nov. 1, and Jan. 26, 27, which are poor. Flow regulated since 1939 by Claytor Reservoir (station 03169000) 55 mi upstream from station. U.S. Army Corps of Engineers satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--59 years, 4,979 ft³/s, 17.94 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 226,000 ft³/s, Aug. 14, 1940, gage height, 27.50 ft, from rating curve extended above 89,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 717 ft³/s, Jan. 5, 1981, result of freezeup; minimum daily, 820 ft³/s, Sept. 8, 1930; minimum gage height, 2.10 ft, Sept. 8, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 53,600 ft³/s, Nov. 5, gage height, 12.55 ft; minimum daily, 955 ft³/s, July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	1250	1900	15700	4770	1730	4930	3980	2710	3070	1160	1220	1290		
2	1350	8540	12400	2000	1740	1530	3300	2770	2270	1190	1170	4280		
3	2000	6820	9190	3860	4250	1520	2760	2210	3760	1960	1140	10100		
4	3170	11600	8250	3440	7900	4610	2820	1460	3580	2850	1040	8670		
5	4620	40000	7340	1660	7740	4580	3020	1450	3760	1330	1100	6700		
6	1450	22000	6560	2100	6850	4250	1730	1850	2820	1180	1300	6970		
7	1350	13800	6540	3710	11800	3920	1610	2230	3280	1010	1350	2290		
8	1650	9830	2230	1660	8920	3750	2980	2060	1900	1460	2240	3560		
9	1550	7530	2350	1440	4010	1340	3480	2230	1750	1230	1840	4180		
10	1200	6910	4460	1690	5060	1210	3540	2980	2970	1440	1450	2900		
11	1250	2540	4760	2260	7060	2350	3570	1670	3270	2400	1160	2800		
12	1200	6230	6300	1690	6570	3110	2290	1570	3380	2220	1210	2450		
13	1250	5900	4820	1990	6000	3500	1470	2470	3160	1360	1180	2010		
14	1200	3390	5350	2650	5590	6480	1480	6030	2110	1190	1270	1440		
15	1400	3710	2390	2240	5810	21200	2630	6160	1310	1550	1770	1370		
16	1350	2710	3530	2220	2000	17900	2980	5790	1270	1450	1700	1680		
17	1400	1580	5460	2120	2070	10800	3210	4980	2310	1510	1310	1810		
18	1550	1440	4850	2780	9100	10000	3290	2580	2270	1110	1310	1550		
19	1700	3260	4290	1340	8220	9200	2590	4630	2100	1000	1610	1490		
20	1300	3650	4620	2960	10500	7670	1530	11500	2000	955	2280	1130		
21	1450	3790	3350	5860	11100	7390	1590	19100	2460	1010	2770	1180		
22	3000	8520	1460	5030	9770	6570	2740	14500	1220	998	3390	1170		
23	2800	4580	1490	4090	7520	2350	3100	10200	1110	1120	3130	1300		
24	2600	3150	3310	3220	2850	2420	2930	6480	1130	1150	3150	1260		
25	2400	3870	2810	3140	6320	4970	3140	4470	1120	1130	2040	1320		
26	2500	5630	2210	1700	5320	4850	2710	4260	1090	1330	3290	1250		
27	1450	6060	4510	1600	5090	4860	1620	6250	1050	1410	2820	1290		
28	1400	7040	3430	3450	6310	5210	1670	5870	1060	1440	2150	1260		
29	1360	6260	1460	3800	---	4680	3290	7130	982	2030	1880	1100		
30	2500	12800	1320	2270	---	1860	3150	7730	1030	1500	1330	2860		
31	2250	---	4420	1320	---	1690	---	6910	---	1430	1240	---		
TOTAL	56900	225040	151160	84060	177200	170700	80200	162230	64592	44103	55840	82660		
MEAN	1835	7501	4876	2712	6329	5506	2673	5233	2153	1423	1801	2755		
MAX	4620	40000	15700	5860	11800	21200	3980	19100	3760	2850	3390	10100		
MIN	1200	1440	1320	1320	1730	1210	1470	1450	982	955	1040	1100		
(*)	-88	-59	+55	+55	-106	+68	+20	-29	+44	+26	-44	-86		
MEAN±	1747	7442	4931	2767	6223	5574	2693	5204	2197	1449	1757	2669		
CFSM±	.46	1.98	1.31	.73	1.65	1.48	.71	1.38	.58	.38	.47	.71		
IN.±	.53	2.20	1.51	.85	1.72	1.71	.80	1.59	.65	.44	.54	.79		
CAL YR 1985	TOTAL	1403320	MEAN	3845	MAX	40000	MIN	1100	MEAN±	3841	CFSM±	1.02	IN.±	13.84
WTR YR 1986	TOTAL	1354685	MEAN	3711	MAX	40000	MIN	955	MEAN±	3700	CFSM±	.98	IN.±	13.33

* Change in contents, equivalent in cubic feet per second, in Claytor Reservoir; provided by Appalachian Power Company.

± Adjusted for change in contents.

KANAWHA RIVER BASIN

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03176500 NEW RIVER AT GLEN LYN, VA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1931, 1950, 1952, 1955-56, 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1968 to current year.

WATER TEMPERATURE: October 1964 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 350 microsiemens, Nov. 6, 1968; minimum, 70 microsiemens, Mar. 26, 27, 1979.

WATER TEMPERATURE: Maximum, 30.5°C, June 24, 1983; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 280 microsiemens, Dec. 10; minimum daily, 107 microsiemens, Dec. 1.

WATER TEMPERATURE: Maximum daily, 29.0°C, July 22; minimum, 2.0°C, Dec. 26, Jan. 11, 28.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	PH LAB (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
DEC 18...	1000	6980	130	139	7.40	8.00	4.0	727	2.4	11.8	94	180
JAN 22...	1015	6320	120	133	7.30	7.60	2.0	723	1.6	13.4	102	K8
MAR 25...	1025	7270	180	187	8.20	8.40	10.5	737	1.7	11.2	104	8
MAY 06...	0930	2390	180	190	7.80	8.30	16.0	725	1.1	8.7	93	--
JUL 29...	1015	2050	195	197	8.20	8.40	26.5	722	1.0	7.4	97	92
SEP 02...	1015	1940	200	206	7.80	8.10	20.0	728	2.5	8.0	92	530

DATE	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	ALKA- LITY, CARBON- ATE IT-FLD (MG/L - CACO3)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
DEC 18...	23	56	4	14	5.1	3.6	1.9	42	50	52	63	11
JAN 22...	K20	56	4	14	5.2	3.6	1.3	43	50	52	63	12
MAR 25...	13	79	21	20	7.1	3.9	1.4	62	58	58	70	14
MAY 06...	K7	80	27	19	7.8	3.8	1.3	62	52	53	64	17
JUL 29...	530	82	19	20	7.9	4.9	1.7	65	64	63	77	23
SEP 02...	420	90	25	22	8.4	5.0	2.0	66	65	65	79	23

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
DEC 18...	4.6	<0.10	8.3	69	80	<0.010	1.10	0.030	0.030	0.40	0.060	0.060
JAN 22...	4.4	0.10	8.4	69	80	0.020	0.890	0.030	0.030	0.40	0.040	0.020
MAR 25...	5.7	0.10	3.9	103	91	0.020	1.50	0.020	0.010	<0.20	0.040	0.030
MAY 06...	5.4	<0.10	4.2	105	90	0.010	0.840	0.060	0.050	0.40	0.070	0.060
JUL 29...	5.1	<0.10	6.7	117	110	0.020	1.10	0.040	0.060	0.40	0.070	0.040
SEP 02...	5.9	0.10	6.1	134	110	0.010	1.30	0.010	0.020	0.30	0.090	0.070

DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
DEC 18...	0.050	20	<1	30	<0.5	<1	<1	<3	4	100	2	<4
JAN 22...	0.020	--	--	--	--	--	--	--	--	--	--	--
MAR 25...	0.020	20	<1	25	<0.5	2	<1	<3	3	18	<1	<4
MAY 06...	0.050	--	--	--	--	--	--	--	--	--	--	--
JUL 29...	0.050	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	0.010	<10	1	33	<0.5	2	<1	<3	3	20	<5	6

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 18...	14	0.1	<10	16	<1	<1	56	<6	11	12	72
JAN 22...	--	--	--	--	--	--	--	--	--	--	--
MAR 25...	10	<0.1	<10	2	<1	<1	87	<6	8	7	78
MAY 06...	--	--	--	--	--	--	--	--	--	5	71
JUL 29...	--	--	--	--	--	--	--	--	--	14	69
SEP 02...	7	<0.1	<10	1	<1	<1	98	<6	9	16	63

03176500 NEW RIVER AT GLEN LYN, VA--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	15.0	12.0	4.0	4.0	5.0	15.0	26.0	20.0	26.0	28.0	21.0
2	20.0	16.0	12.5	4.5	4.5	5.0	15.0	25.0	22.0	25.0	26.0	20.0
3	20.0	16.0	8.0	5.0	8.0	5.0	14.0	23.0	21.0	24.5	26.5	22.0
4	19.5	14.0	9.0	5.0	8.0	5.0	16.0	19.0	21.0	24.0	---	21.0
5	21.0	15.0	10.0	5.0	8.0	6.0	15.0	23.0	23.0	24.5	27.0	21.0
6	18.0	14.0	9.0	5.0	7.0	7.0	16.0	25.0	23.0	26.0	26.0	21.0
7	16.0	13.0	9.0	6.0	7.0	6.0	15.0	26.5	23.5	27.0	25.0	21.0
8	17.0	13.0	8.0	4.0	6.0	3.0	16.0	27.0	24.0	27.0	25.0	21.0
9	19.0	13.0	9.0	4.0	7.0	4.0	14.0	27.0	---	26.0	26.0	20.0
10	19.0	13.0	9.0	5.0	7.0	7.0	11.0	26.0	23.0	26.0	24.0	---
11	20.0	14.0	9.0	2.0	6.0	10.0	10.0	26.5	23.0	25.0	25.0	23.0
12	21.0	14.5	10.0	3.0	4.0	11.0	12.0	26.0	23.0	25.0	24.0	23.0
13	20.0	---	11.0	5.0	3.0	9.5	13.0	26.0	24.0	25.0	---	22.0
14	21.0	15.0	9.0	5.0	3.0	10.0	13.0	23.0	23.0	25.0	24.0	21.0
15	21.0	15.0	5.0	6.0	3.0	9.0	15.0	23.0	---	27.0	24.5	21.0
16	21.0	14.0	5.0	5.0	3.5	8.5	14.0	24.0	---	27.0	25.0	22.0
17	19.0	15.0	5.0	5.0	5.0	8.0	---	---	25.0	27.0	26.5	21.0
18	18.0	14.0	5.0	6.0	6.0	9.0	20.0	18.0	24.5	27.0	26.0	20.0
19	19.0	15.0	4.5	6.5	6.0	10.0	20.0	19.0	24.0	28.0	25.0	21.0
20	20.0	15.0	5.0	7.0	7.0	11.0	20.0	17.0	24.0	28.5	24.0	21.0
21	19.0	14.5	4.5	4.0	8.0	8.0	21.0	15.5	23.5	28.0	23.0	22.0
22	---	13.0	3.0	6.0	7.0	7.0	20.0	16.0	---	29.0	24.0	22.0
23	18.0	12.0	4.0	7.0	6.0	6.0	18.0	16.5	24.0	28.0	25.0	22.0
24	19.0	11.0	4.0	---	6.0	9.0	19.0	17.0	26.0	28.0	22.5	24.0
25	19.0	11.0	4.0	6.0	5.0	10.0	20.0	18.0	24.0	28.0	23.0	24.5
26	---	13.0	2.0	7.0	4.0	10.0	23.5	18.0	24.0	28.0	24.0	25.0
27	17.5	14.0	---	3.0	4.0	11.0	25.0	17.0	25.0	27.0	25.0	25.0
28	17.0	14.0	4.0	2.0	4.0	12.0	27.0	18.0	25.0	27.0	24.0	---
29	16.0	15.0	4.0	3.0	---	12.0	---	19.0	26.0	27.0	25.0	25.0
30	15.0	13.0	3.0	2.5	---	12.0	---	21.0	26.0	27.0	21.0	25.0
31	15.0	---	3.0	7.0	---	13.0	---	20.0	---	27.0	21.0	---
MEAN	19.0	14.0	6.5	5.0	5.5	8.5	17.0	21.5	23.5	26.5	24.5	22.0
WTR YR 1986	MEAN	16.0	MAX	29.0	MIN	2.0						

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	218	173	107	145	165	121	170	159	138	195	185	198
2	203	172	109	145	180	160	159	156	150	200	205	205
3	220	130	121	141	185	165	160	159	156	200	210	148
4	195	127	130	165	135	200	175	165	140	175	---	145
5	185	115	130	165	125	150	185	181	140	178	205	160
6	148	117	139	179	130	150	175	181	142	180	210	160
7	163	117	145	185	140	145	180	170	160	180	210	168
8	167	118	150	170	125	150	172	170	160	190	205	185
9	203	117	160	175	135	165	160	170	---	185	200	170
10	209	128	280	180	141	170	160	169	168	188	210	175
11	200	130	140	190	140	185	160	170	175	188	200	195
12	203	122	135	205	142	179	168	175	160	185	215	200
13	210	---	139	170	155	145	170	160	160	175	210	195
14	218	124	140	170	140	115	181	125	158	188	218	200
15	224	140	155	165	150	125	181	119	155	200	225	215
16	217	136	155	160	155	130	175	121	170	200	223	215
17	221	157	160	161	160	145	---	---	178	190	218	223
18	216	161	139	180	190	141	158	118	160	193	203	200
19	216	179	139	180	139	140	175	130	160	200	210	195
20	218	137	140	175	140	140	165	119	160	200	228	190
21	222	117	145	140	124	141	190	120	160	200	205	198
22	210	115	165	130	122	160	198	120	---	200	197	198
23	175	115	175	135	125	170	178	122	180	205	185	200
24	177	145	181	140	141	190	160	140	178	205	183	208
25	179	147	175	141	161	155	160	140	180	200	170	210
26	177	119	179	159	139	155	170	155	184	218	165	200
27	176	116	---	160	150	155	170	140	180	215	180	200
28	198	114	140	165	150	150	181	138	188	205	180	---
29	182	127	170	170	---	162	182	142	198	200	175	200
30	222	120	165	145	---	165	163	120	200	190	190	190
31	197	---	181	165	---	179	---	138	---	200	200	---
MEAN	199	132	153	163	146	155	172	146	166	194	201	191
WTR YR 1986	MEAN	168	MAX	280	MIN	107						

KANAWHA RIVER BASIN

03179000 BLUESTONE RIVER NEAR PIPESTEM, WV

LOCATION.--Lat 37°32'38", long 81°00'38", Summers County, Hydrologic Unit 05050002, on left bank 1.2 mi downstream from Mountain Creek, 2.5 mi west of Pipestem, and at mile 10.6.

DRAINAGE AREA.--394 mi².

PERIOD OF RECORD.--July 1950 to current year.

REVISED RECORDS.--WSP 1705: 1959. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,527.35 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Estimated daily discharges: Jan. 29-31. Records good except for period with ice effect, which is poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--36 years, 468 ft³/s, 16.13 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft³/s, Apr. 5, 1977, gage height, 15.82 ft; minimum, 7.0 ft³/s, Sept. 21-23, 30, 1955, gage height, 1.60 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Mar. 15	0500	*4,880	*9.36	May 13	2200	4,800	9.31

Minimum discharge, 34 ft³/s, Oct. 14, gage height, 1.96 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	41	2400	210	265	478	205	205	240	159	43	99
2	40	45	1380	222	535	438	197	185	207	518	40	270
3	47	54	834	222	1840	431	189	167	185	414	39	411
4	55	577	575	213	2910	417	179	142	163	210	36	369
5	50	1720	460	203	1890	386	169	132	159	127	38	242
6	42	1160	425	188	1210	370	163	127	157	96	39	212
7	41	702	368	186	2040	367	173	124	384	80	45	159
8	42	432	314	101	2070	318	179	378	441	71	54	119
9	39	286	289	138	1260	319	163	630	312	63	43	96
10	37	211	266	175	907	348	165	453	217	121	39	81
11	37	169	248	175	794	402	161	336	193	360	37	72
12	36	145	283	168	654	430	145	290	179	333	46	67
13	35	129	424	163	526	417	135	2990	145	307	61	69
14	35	119	781	138	471	1300	129	3990	124	260	53	74
15	35	110	701	146	477	4490	126	2210	110	300	42	60
16	37	102	552	121	439	2450	126	1240	100	177	39	53
17	37	100	449	131	596	1350	134	915	92	131	207	49
18	55	101	378	135	1980	942	140	915	85	107	151	47
19	45	91	273	199	2230	762	134	1380	78	88	109	61
20	39	85	249	451	2130	626	124	2690	73	75	116	100
21	49	81	243	471	1700	505	134	1920	71	69	155	110
22	92	245	179	436	1160	431	157	1120	67	68	118	89
23	109	589	264	473	1090	387	163	782	62	106	85	78
24	81	411	247	473	925	353	155	586	72	175	103	73
25	64	293	211	408	814	315	147	468	74	112	143	88
26	56	235	161	382	674	292	195	408	68	98	96	84
27	52	410	211	348	633	284	300	393	60	85	71	71
28	47	1100	259	201	569	287	307	414	56	67	197	75
29	44	3660	194	190	---	256	280	345	55	56	396	80
30	42	3070	157	170	---	235	240	302	54	50	201	73
31	41	---	161	190	---	220	---	272	---	45	121	---
TOTAL	1498	16473	13936	7427	32789	20606	5214	26509	4283	4928	2963	3531
MEAN	48.3	549	450	240	1171	665	174	855	143	159	95.6	118
MAX	109	3660	2400	473	2910	4490	307	3990	441	518	396	411
MIN	35	41	157	101	265	220	124	124	54	45	36	47
CFSM	.12	1.39	1.14	.61	2.97	1.69	.44	2.17	.36	.40	.24	.30
IN.	.14	1.56	1.32	.70	3.10	1.95	.49	2.50	.40	.47	.28	.33

CAL YR 1985	TOTAL	148586	MEAN 407	MAX 6390	MIN 35	CFSM 1.03	IN 14.03
WTR YR 1986	TOTAL	140157	MEAN 384	MAX 4490	MIN 35	CFSM .98	IN 13.23

KANAWHA RIVER BASIN

03180500 GREENBRIER RIVER AT DURBIN, WV

LOCATION.--Lat 38°32'37", long 79°50'00", Pocahontas County, Hydrologic Unit 05050003, on left bank at Durbin, 500 ft downstream from confluence of East and West Forks, and at mile 153.4.

DRAINAGE AREA.--133 mi².

PERIOD OF RECORD.--March 1943 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,699.71 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 20-24, 26-31, Jan. 1-17, 28-31, Feb. 1-2, 14-16, and Sept. 17, 25. Records good except for periods with ice effect, Dec. 20-24, 26-31, Jan. 1-17, 28-31, and Feb. 1-2, 14-16, which are poor.

AVERAGE DISCHARGE.--43 years, 262 ft³/s, 26.75 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,100 ft³/s, Nov. 4, 1985, gage height, 15.82 ft, from floodmarks, from rating curve extended above 5,000 ft³/s on basis of slope-area measurement of peak flow; no flow part of each day, Oct. 2, 3, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 4	2000	*37,100	a*15.82	Mar. 15	0200	5,970	6.67
Nov. 28	2300	3,770	5.65	July 3	0430	2,890	5.12
Feb. 4	0630	2,840	5.09				

a From floodmarks.

Minimum discharge, 8.1 ft³/s, Oct. 1, gage height, 0.66 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	64	625	90	110	160	75	462	92	1030	24	19
2	14	86	462	86	150	158	71	335	82	2110	21	61
3	40	177	331	84	415	142	66	252	73	2220	19	63
4	44	13200	266	80	2120	128	63	201	61	914	17	43
5	32	10300	235	75	1520	117	62	171	58	480	15	38
6	19	2220	219	70	1040	108	96	147	58	301	14	35
7	15	1040	182	64	710	94	174	166	71	207	26	27
8	12	620	160	60	500	110	160	142	110	155	35	23
9	11	423	158	52	391	140	182	119	82	152	54	21
10	11	319	166	48	323	423	188	106	58	239	29	17
11	11	259	210	45	290	2000	188	94	82	163	32	16
12	11	216	848	48	219	1100	248	86	121	152	30	15
13	11	204	1170	54	179	794	457	88	94	126	21	17
14	11	201	1060	47	150	1820	439	98	90	147	17	15
15	14	177	675	40	140	3810	383	80	163	121	17	13
16	23	171	475	50	160	1270	391	69	92	100	27	12
17	18	226	359	70	194	680	343	66	66	82	42	11
18	14	207	255	145	490	466	323	90	51	66	27	12
19	13	197	191	555	936	367	339	112	42	56	24	27
20	95	182	160	1020	908	287	351	896	100	53	22	37
21	403	163	140	600	716	226	347	610	94	61	21	28
22	220	625	145	419	585	182	294	435	56	46	32	23
23	160	896	150	323	475	166	262	327	54	49	28	17
24	137	600	150	266	391	150	239	255	399	45	117	14
25	146	423	128	245	311	128	235	201	266	35	55	13
26	122	347	100	219	259	119	226	168	152	39	35	14
27	107	890	80	171	239	119	204	177	108	69	30	86
28	93	2080	94	150	188	106	207	177	660	41	43	163
29	79	2520	110	130	---	94	836	142	794	46	35	86
30	71	1060	90	110	---	86	635	126	480	43	25	59
31	68	---	80	100	---	80	---	108	---	29	20	---
TOTAL	2033.9	40093	9474	5516	14109	15630	8084	6506	4709	9377	954	1025
MEAN	65.6	1336	306	178	504	504	269	210	157	302	30.8	34.2
MAX	403	13200	1170	1020	2120	3810	836	896	794	2220	117	163
MIN	8.9	64	80	40	110	80	62	66	42	29	14	11
CFSM	.49	10.0	2.30	1.34	3.79	3.79	2.02	1.58	1.18	2.27	.23	.26
IN.	.57	11.21	2.65	1.54	3.95	4.37	2.26	1.82	1.32	2.62	.27	.29

CAL YR 1985	TOTAL	120911.4	MEAN 331	MAX 13200	MIN 8.9	CFSM 2.49	IN 33.82
WTR YR 1986	TOTAL	117510.9	MEAN 322	MAX 13200	MIN 8.9	CFSM 2.42	IN 32.87

KANAWHA RIVER BASIN

03182000 KNAPP CREEK AT MARLINTON, WV

LOCATION.--Lat 38°12'40", long 80°04'30", Pocahontas County, Hydrologic Unit 05050003, at city water plant, at Marlinton, 1.0 mi upstream from mouth, and 2.0 mi downstream from discontinued gaging station.

DRAINAGE AREA.--108 mi² at discontinued gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1946 to September 1983, July 1985 to current year.

COOPERATION.--Records were furnished by Marlinton City Water Plant.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 28.0°C, July 24, 1952, June 2, 1959; minimum daily, 0.0°C, Dec. 21, 25, 26, 1985, Jan. 28, 1986.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum daily observed, 22.0°C, July 16, 19, Aug. 5; minimum daily observed, 0.0°C, Dec. 21, 25, 26, Jan. 28.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	17.0	12.0	4.0	4.0	3.0	9.0	12.0	16.0	18.0	18.0	18.0
2	20.0	18.0	11.0	4.0	5.0	4.0	9.0	11.0	16.0	18.0	18.0	18.0
3	19.0	17.0	9.0	5.0	5.0	4.0	12.0	10.0	15.0	16.0	19.0	17.0
4	19.0	18.0	10.0	4.0	5.0	5.0	13.0	11.0	15.0	16.0	20.0	17.0
5	18.0	17.0	10.0	4.0	6.0	5.0	15.0	13.0	16.0	17.0	22.0	18.0
6	13.0	18.0	11.0	3.0	6.0	6.0	16.0	15.0	19.0	17.0	21.0	18.0
7	12.0	16.0	9.0	3.0	5.0	6.0	15.0	17.0	20.0	19.0	21.0	18.0
8	15.0	17.0	9.0	4.0	6.0	6.0	12.0	18.0	17.0	19.0	20.0	18.0
9	17.0	18.0	10.0	4.0	5.0	6.0	9.0	17.0	19.0	19.0	20.0	17.0
10	18.0	16.0	10.0	4.0	5.0	5.0	7.0	17.0	18.0	20.0	19.0	18.0
11	19.0	16.0	9.0	5.0	4.0	5.0	7.0	17.0	17.0	19.0	19.0	18.0
12	18.0	17.0	9.0	5.0	3.0	5.0	8.0	16.0	17.0	19.0	19.0	17.0
13	19.0	16.0	8.0	4.0	2.0	5.0	10.0	16.0	16.0	18.0	19.0	17.0
14	19.0	15.0	5.0	3.0	2.0	5.0	12.0	15.0	15.0	19.0	20.0	17.0
15	18.0	15.0	4.0	4.0	3.0	5.0	14.0	15.0	16.0	21.0	21.0	18.0
16	20.0	16.0	4.0	3.0	3.0	6.0	15.0	18.0	17.0	22.0	21.0	17.0
17	19.0	16.0	5.0	3.0	5.0	8.0	13.0	18.0	15.0	21.0	17.0	18.0
18	19.0	15.0	4.0	4.0	5.0	8.0	14.0	18.0	16.0	21.0	17.0	18.0
19	18.0	16.0	2.0	4.0	6.0	6.0	12.0	17.0	17.0	22.0	18.0	19.0
20	18.0	14.0	2.0	5.0	6.0	5.0	12.0	16.0	17.0	19.0	19.0	19.0
21	18.0	14.0	.0	5.0	6.0	5.0	12.0	16.0	17.0	21.0	18.0	17.0
22	19.0	15.0	2.0	3.0	5.0	5.0	10.0	15.0	16.0	21.0	19.0	18.0
23	17.0	15.0	2.0	4.0	5.0	6.0	9.0	15.0	18.0	21.0	19.0	19.0
24	17.0	14.0	3.0	4.0	4.0	6.0	8.0	16.0	18.0	20.0	19.0	18.0
25	18.0	15.0	.0	3.0	3.0	7.0	9.0	15.0	16.0	20.0	17.0	18.0
26	19.0	16.0	.0	2.0	4.0	8.0	11.0	16.0	16.0	20.0	17.0	19.0
27	18.0	15.0	2.0	1.0	4.0	7.0	12.0	16.0	17.0	18.0	19.0	19.0
28	17.0	14.0	2.0	.0	3.0	6.0	13.0	16.0	18.0	18.0	19.0	19.0
29	16.0	14.0	2.0	2.0	---	7.0	11.0	17.0	17.0	19.0	18.0	20.0
30	16.0	13.0	3.0	2.0	---	8.0	12.0	17.0	17.0	18.0	18.0	20.0
31	17.0	---	3.0	4.0	---	9.0	---	18.0	---	17.0	17.0	---
MEAN	17.5	16.0	5.5	3.5	4.5	6.0	11.5	15.5	17.0	19.0	19.0	18.0
WTR YR 1986	MEAN	13.0		MAX	22.0	MIN	.0					

KANAWHA RIVER BASIN

03182500 GREENBRIER RIVER AT BUCKEYE, WV

LOCATION.--Lat 38°11'09", long 80°07'51", Pocahontas County, Hydrologic Unit 05050003, on right bank at upstream side of highway bridge at Buckeye, 1,000 ft upstream from Swago Creek, 3.5 mi downstream from Knapp Creek, and at mile 105.1 (corrected). Records include flow of Swago Creek.

DRAINAGE AREA.--540 mi², includes that of Swago Creek.

PERIOD OF RECORD.--September 1929 to current year.

REVISED RECORDS.--WSP 758: 1933. WSP 953: 1930-32, 1934-35(M), 1936, 1937(M), 1938-39, 1940(M). WSP 1275: 1936.

GAGE.--Water-stage recorder. Datum of gage is 2,085.89 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 27, 1939, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 21, Jan. 11-18, 28-31, and Feb. 1-2, 15-16. Records good except for periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--57 years, 881 ft³/s, 22.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 82,000 ft³/s, Nov. 5, 1985, gage height, 23.20 ft, from floodmarks, from rating curve extended above 33,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 3.8 ft³/s, Aug. 13, 1930, gage height, 1.19 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	0300	*82,000	a*23.20	Mar. 15	0400	20,000	12.84

a From floodmarks.

Minimum discharge, 31 ft³/s, Oct. 1, gage height, 1.75 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	123	2470	315	390	573	271	1160	369	962	110	87
2	36	131	1960	299	450	526	253	900	310	4380	93	143
3	44	298	1470	291	1190	556	240	697	268	4650	77	310
4	50	15900	1120	273	7110	507	227	564	233	2270	64	345
5	72	44400	940	256	4890	464	215	484	206	1200	59	274
6	82	7220	854	245	3330	441	222	426	192	766	55	258
7	69	3270	724	221	2410	423	286	389	233	540	59	198
8	57	1860	612	208	1890	352	434	418	329	405	59	152
9	50	1220	581	169	1540	365	401	361	306	325	74	125
10	46	913	588	171	1280	836	457	309	242	355	96	107
11	44	731	608	150	1160	4210	458	277	200	380	110	96
12	42	610	1290	170	917	3450	498	250	267	294	96	85
13	44	529	2920	190	706	2160	698	250	334	266	77	74
14	46	516	3500	170	589	4080	822	272	267	218	74	64
15	50	478	2220	140	500	14000	749	283	217	226	59	59
16	52	429	1560	150	540	4980	740	255	287	194	59	55
17	55	501	1180	160	574	2590	719	243	207	169	52	50
18	55	556	926	190	1040	1690	667	264	163	146	69	44
19	69	519	628	389	2970	1290	640	481	135	131	110	44
20	74	492	536	2180	3080	1050	653	4170	123	143	93	46
21	285	456	470	1710	2290	823	709	3050	153	128	93	50
22	669	1860	496	1220	1780	660	696	1760	200	134	131	72
23	365	4080	504	1070	1430	585	615	1210	142	258	131	59
24	285	2200	528	933	1210	537	562	912	184	214	270	59
25	300	1430	422	842	1070	474	522	697	684	155	258	52
26	282	1090	324	785	887	420	520	569	399	330	179	46
27	216	1380	280	670	857	393	487	534	257	595	146	46
28	181	3380	335	500	721	375	444	702	245	315	165	74
29	155	7420	362	420	---	338	1030	611	1460	198	131	246
30	136	4060	306	380	---	306	1580	507	1060	143	116	162
31	125	---	278	350	---	287	---	436	---	131	96	---
TOTAL	4069	108052	30992	15217	46801	49741	16815	23441	9672	20621	3261	3482
MEAN	131	3602	1000	491	1671	1605	561	756	322	665	105	116
MAX	669	44400	3500	2180	7110	14000	1580	4170	1460	4650	270	345
MIN	33	123	278	140	390	287	215	243	123	128	52	44
CFSM	.24	6.67	1.85	.91	3.09	2.97	1.04	1.40	.60	1.23	.19	.22
IN.	.28	7.44	2.13	1.05	3.22	3.43	1.16	1.61	.67	1.42	.22	.24

CAL YR 1985 TOTAL 367964 MEAN 1008 MAX 44400 MIN 31 CFSM 1.87 IN 25.35
WTR YR 1986 TOTAL 332164 MEAN 910 MAX 44400 MIN 33 CFSM 1.69 IN 22.88

KANAWHA RIVER BASIN

03183500 GREENBRIER RIVER AT ALDERSON, WV

LOCATION.--Lat $37^{\circ}43'27''$, long $80^{\circ}38'30''$, Monroe County, Hydrologic Unit 05050003, on left bank 400 ft upstream from highway bridge at Alderson, 0.5 mi upstream from Muddy Creek, and at mile 29.2.

DRAINAGE AREA.--1,364 mi².

PERIOD OF RECORD.--July 1895 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 536: 1907-9. WSP 803: 1918(M). WSP 953: 1930-41. WSP 1275: 1897, 1905, 1910, 1914(M), 1915-16, 1917(M), 1919-20(M), 1924-25(M), 1927(M), 1929, 1949, WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,529.42 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 15, 1929, nonrecording gage at bridge 400 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--91 years, 1,999 ft³/s, 19.90 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,600 ft³/s, Nov. 5, 1985, gage height, 23.95 ft, from floodmarks, from rating curve extended above 37,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 24 ft³/s, Aug. 12, Oct. 1, 2, 1930; minimum gage height, 1.63 ft, Sept. 20, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 19,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 5	2000	*90,600	a*23.95	Mar. 15	1600	32,100	13.55

a From floodmarks.

Minimum discharge, 79 ft³/s, Oct. 1, gage height, 1.86 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	231	8300	666	878	1710	701	2100	950	1680	233	215
2	88	226	5650	617	926	1470	645	1650	794	2640	198	293
3	97	251	4450	666	1660	1410	607	1330	655	6860	185	317
4	102	2780	3470	666	9200	1390	569	1050	552	5000	164	434
5	104	57300	2820	626	12300	1320	536	878	488	2860	147	712
6	99	32400	2460	588	7460	1240	512	758	442	1760	160	806
7	97	8030	2160	496	5970	1230	504	678	412	1180	143	666
8	99	4630	1830	442	5470	1080	512	655	442	830	143	496
9	115	3220	1620	363	4520	962	598	666	878	607	139	376
10	130	2370	1540	376	3640	1020	666	626	712	626	136	299
11	117	1870	1540	369	3180	3240	666	536	569	655	143	254
12	110	1560	1620	329	2800	6950	701	488	465	598	189	228
13	102	1330	2900	363	2250	4820	701	488	404	504	194	206
14	97	1150	5820	412	1760	5150	818	645	450	434	185	189
15	97	1050	5200	342	1600	27200	1080	818	457	369	168	173
16	99	1010	3890	293	1470	15500	1040	794	404	342	152	160
17	97	962	3080	317	1530	7400	986	735	349	317	206	147
18	97	1020	2500	342	1730	4780	986	878	383	281	185	136
19	94	1150	1960	369	3390	3620	926	794	305	254	254	133
20	99	1070	1530	1330	5420	2940	866	2860	259	223	219	133
21	107	998	1420	3530	4870	2370	902	7670	233	202	219	133
22	138	1380	1200	2620	3970	1920	974	4410	210	189	244	127
23	732	6860	1090	2190	3620	1620	998	3000	198	265	228	120
24	699	5900	1200	1990	3240	1440	902	2210	270	233	228	127
25	503	3970	1270	1830	2920	1320	830	1680	275	305	293	133
26	494	2980	974	1700	2520	1290	806	1360	472	311	457	147
27	469	3020	747	1560	2260	1050	890	1140	626	465	369	136
28	405	5470	666	1210	2050	974	866	1380	412	1050	317	139
29	321	13500	655	938	---	902	830	1810	349	636	259	152
30	273	12500	655	830	---	830	1570	1470	1350	419	265	177
31	240	---	645	794	---	758	---	1170	---	293	233	---
TOTAL	6404	180188	74862	29164	102604	108906	24188	46727	14765	32388	6655	7764
MEAN	207	6006	2415	941	3664	3513	806	1507	492	1045	215	259
MAX	732	57300	8300	3530	12300	27200	1570	7670	1350	6860	457	806
MIN	83	226	645	293	878	758	504	488	198	189	136	120
CFSM	.15	4.40	1.77	.69	2.69	2.58	.59	1.11	.36	.77	.16	.19
IN.	.17	4.91	2.04	.80	2.80	2.97	.66	1.27	.40	.88	.18	.21

CAL YR 1985	TOTAL	764182	MEAN	2094	MAX	57300	MIN	83	CFSM	1.54	IN	20.84
WTR YR 1986	TOTAL	634615	MEAN	1739	MAX	57300	MIN	83	CFSM	1.28	IN	17.31

KANAWHA RIVER BASIN

03184000 GREENBRIER RIVER AT HILLDALE, WV

LOCATION.--Lat 37°38'24", long 80°48'19", Summers County, Hydrologic Unit 05050003, on left bank 100 ft downstream from State Highway 3 bridge at Hilldale, 0.1 mi upstream from Howard Creek, 0.9 mi upstream from Powley Creek, 5.0 mi southeast of Hinton, and at mile 5.5. Records include flow of Howard Creek.

DRAINAGE AREA.--1,619 mi², includes that of Howard Creek.

PERIOD OF RECORD.--June 1936 to current year.

REVISED RECORDS.--WSP 1435: 1955. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,388.66 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Estimated daily discharges: Dec. 15-17, Jan. 11-13, 15-17, 31, and Feb. 1. Records good except for periods with ice effect, Jan. 11-13, 15-17, 31 and Feb. 1, which are poor.

AVERAGE DISCHARGE.--50 years, 2,267 ft³/s, 19.02 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 83,800 ft³/s, Nov. 6, 1985, gage height, 25.68 ft, from floodmarks, from rating curve extended above 57,000 ft³/s; minimum discharge, 39 ft³/s, Sept. 18-20, 1946, Sept. 16, 1964; minimum gage height, 0.32 ft, Sept. 16, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 21.85 ft from data furnished by U.S. Army Corps of Engineers, discharge, 60,800 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 24,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 6	0500	*83,800	a*25.68	Mar. 15	2200	35,500	16.26

a From floodmarks.

Minimum discharge, 82 ft³/s, Oct. 1, gage height, 0.54 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	245	10000	641	1000	2120	818	2520	1170	1990	317	278
2	90	236	6760	640	1190	1790	770	1990	974	2720	255	304
3	90	240	5150	623	2240	1680	729	1600	814	7220	219	406
4	97	508	3880	639	9750	1680	689	1290	694	6240	202	423
5	107	40000	3030	616	15200	1610	651	1070	605	3580	177	701
6	104	50400	2560	562	9430	1500	625	925	543	2160	161	870
7	99	10100	2130	517	7870	1480	629	829	510	1440	177	922
8	97	5490	1790	420	7260	1390	621	907	495	1030	154	681
9	97	3560	1540	378	5950	1210	642	871	702	780	156	517
10	104	2510	1430	399	4720	1180	795	830	922	642	148	398
11	124	1860	1430	390	4040	2550	773	722	704	831	151	329
12	120	1450	1500	370	3610	8230	816	636	587	688	158	285
13	112	1210	2550	420	2930	6090	804	644	501	685	227	249
14	102	1050	6340	459	2270	6210	855	937	444	576	221	224
15	99	929	5900	400	1990	27500	1130	1180	543	498	200	208
16	97	884	4200	380	1800	21300	1170	1110	497	410	193	188
17	94	830	3040	360	1790	9690	1100	1030	411	385	173	171
18	92	821	2600	384	2270	6220	1110	1020	406	358	241	157
19	92	947	1990	468	3650	4580	1040	1070	384	314	245	158
20	90	934	1480	1360	6420	3700	983	1990	319	283	304	144
21	107	867	1190	4540	6120	2970	993	8620	277	250	275	138
22	115	1020	954	3500	4930	2370	1060	5780	244	221	293	137
23	187	5980	1010	2790	4430	1970	1140	3810	220	210	298	128
24	839	7150	1110	2450	4080	1690	1060	2760	236	304	295	127
25	564	4450	1150	2220	3630	1470	972	2070	321	260	286	141
26	476	3070	873	2050	3130	1300	937	1640	304	370	462	143
27	468	2460	684	1920	2770	1170	995	1370	693	390	469	160
28	436	5560	627	1440	2500	1080	1040	1330	568	951	424	149
29	357	13500	667	943	---	1010	980	2060	434	948	348	148
30	302	15000	602	915	---	945	1100	1850	608	594	301	160
31	270	---	600	900	---	877	---	1450	---	419	305	---
TOTAL	6112	183261	78767	34094	126970	128562	27027	55911	16130	37747	7835	9044
MEAN	197	6109	2541	1100	4535	4147	901	1804	538	1218	253	301
MAX	839	50400	10000	4540	15200	27500	1170	8620	1170	7220	469	922
MIN	84	236	600	360	1000	877	621	636	220	210	148	127
CFSM	.12	3.77	1.57	.68	2.80	2.56	.56	1.11	.33	.75	.16	.19
IN.	.14	4.21	1.81	.78	2.92	2.95	.62	1.28	.37	.87	.18	.21

CAL YR 1985	TOTAL	809406	MEAN	2218	MAX	50400	MIN	84	CFSM	1.37	IN	18.60
WTR YR 1986	TOTAL	711460	MEAN	1949	MAX	50400	MIN	84	CFSM	1.20	IN	16.35

KANAWHA RIVER BASIN

03184500 NEW RIVER AT HINTON, WV

LOCATION.--Lat 37°40'13", long 80°53'45", Summers County, Hydrologic Unit 05050004, on right bank at Hinton, 0.2 mi upstream from Madam Creek, 1.5 mi downstream from Greenbrier River, at New River mile 62.0 and Kanawha River mile 160.0.

DRAINAGE AREA.--6,256 mi².

PERIOD OF RECORD.--June 1936 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area. WDR WV-85-1: 1984(m).

GAGE.--Water-stage recorder. Datum of gage is 1,355.18 ft above National Geodetic Vertical Datum of 1929. Prior to June 5, 1949, water-stage recorder at site 400 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1939 by Claytor Lake and since 1949 by Bluestone Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--50 years, 7,889 ft³/s, 17.12 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 246,000 ft³/s, Aug. 15, 1940, gage height, 18.97 ft, from rating curve extended above 80,000 ft³/s on basis of slope-area measurement at station at Bluestone Dam, and gaged inflow from Greenbrier River; minimum, 238 ft³/s, Aug. 21, 1962, gage height, 1.03 ft; minimum daily, 620 ft³/s, Nov. 3, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 78,200 ft³/s, Nov. 6, gage height, 9.91 ft; minimum daily, 1,100 ft³/s, Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1210	2390	26400	3940	3340	7580	4310	5170	5380	3520	1830	1690
2	1100	5700	23400	3580	3820	5600	3860	4550	3670	4930	1740	2920
3	1320	7000	19700	3300	7050	4840	3920	4250	3980	8260	1680	7420
4	2420	12200	13600	3460	18900	5800	3650	3420	4160	8590	1340	9290
5	3940	48300	10600	3070	27100	6520	3460	2610	4360	5250	1120	6100
6	3190	61000	8660	2750	19900	6420	3440	2660	4260	3410	1280	6650
7	1610	44000	8000	3260	21100	6230	3020	2750	3970	2780	1410	4820
8	1400	23500	5320	3030	21700	5460	3230	3000	3720	2230	1620	3060
9	1420	21700	3980	2420	13200	4500	4110	3810	3230	2130	2150	4090
10	1450	13900	4640	2290	10300	3500	4530	4450	3890	2130	2000	3940
11	1480	6180	5410	2360	11800	4690	4270	3410	3990	2790	1740	2970
12	1480	6760	7400	2550	10100	10700	3810	2730	4030	3830	1570	2320
13	1260	6520	6850	2850	9080	9680	2990	5730	3980	3250	1600	2460
14	1130	5120	10200	3000	7700	12000	2570	11000	3090	2470	1480	2160
15	1400	4140	10200	3150	7820	46800	3300	9020	2660	2210	1390	1900
16	1560	3940	7400	3110	5600	48600	4100	8530	2390	2300	1780	1870
17	1560	3220	7700	2890	4790	30800	4260	6320	2170	2260	2010	2010
18	1530	2680	7200	2820	11200	17900	4280	5270	2550	1990	2060	1850
19	1530	3300	6610	2960	15100	15100	4200	6570	3070	1800	2050	1950
20	1560	4500	5890	3620	18000	11600	3280	14100	2710	1750	2320	1830
21	1560	4550	5170	8960	20900	10000	2760	29100	2420	1710	2800	1580
22	1910	8540	3780	8960	16700	8600	2980	22300	2410	1450	3350	1520
23	2260	10300	2920	7580	12500	5700	4030	14700	1940	1310	3320	1510
24	3000	10700	3460	7050	9740	4600	4410	9620	1710	1520	3470	1510
25	3260	8300	4020	5560	9380	5250	4300	7250	1790	1750	3000	1510
26	2820	8420	3980	5120	9620	6510	3450	6220	1780	1840	2970	1520
27	2360	8300	4220	4260	9200	6470	3010	6710	2070	1900	3440	1540
28	2160	12000	4500	4790	9320	6350	3550	6900	2070	2260	3230	1520
29	2070	24300	3380	4930	---	4400	4100	9210	1740	2650	2480	1510
30	2230	29600	2720	3900	---	3070	4340	9070	1390	2510	2110	2480
31	2360	---	3260	3420	---	2820	---	7750	---	2080	1800	---
TOTAL	59540	411060	240570	124940	344960	328090	111520	238180	90580	88860	66140	87500
MEAN	1921	13700	7760	4030	12320	10580	3717	7683	3019	2866	2134	2917
MAX	3940	61000	26400	8960	27100	48600	4530	29100	5380	8590	3470	9290
MIN	1100	2390	2720	2290	3340	2820	2570	2610	1390	1310	1120	1510

CAL YR 1985 TOTAL 2261630 MEAN 6196 MAX 61000 MIN 1000 CFSM .99 IN 13.45
WTR YR 1986 TOTAL 2191940 MEAN 6005 MAX 61000 MIN 1100 CFSM .96 IN 13.03

KANAWHA RIVER BASIN

101

03184950 SOAK CREEK AT SOPHIA, WV

LOCATION.--Lat 37°42'26", long 81°14'33", Raleigh County, Hydrologic Unit 05050004, on left bank, 50 ft downstream from bridge on State Highway 29/6, 1.1 mi upstream from Laurel Branch, and 2.3 mi upstream from Piney Creek.

DRAINAGE AREA.--3.20 mi².

PERIOD OF RECORD.--October 1976 to current year.

REVISED RECORDS.--WDR WV-83-1: Drainage area.

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 1985										
04...	1100	20	140	7.40	11.5	694	10.0	101	296	16
28...	1200	27	--	--	--	--	--	--	1230	90
28...	1230	91	--	--	--	--	--	--	942	231
28...	1300	95	--	--	--	--	--	--	630	162
28...	1330	100	--	--	--	--	--	--	551	149
28...	1400	93	--	--	--	--	--	--	448	112
28...	1430	93	--	--	--	--	--	--	372	93
28...	1500	90	--	--	--	--	--	--	310	75
28...	1530	85	--	--	--	--	--	--	230	53
28...	1600	79	--	--	--	--	--	--	172	37
28...	1630	76	--	--	--	--	--	--	155	32
28...	1700	74	--	--	--	--	--	--	141	28
28...	1730	68	--	--	--	--	--	--	139	26
28...	1800	69	--	--	--	--	--	--	156	29
28...	1830	82	--	--	--	--	--	--	172	38
28...	1900	90	--	--	--	--	--	--	177	43
28...	1930	86	--	--	--	--	--	--	145	34
28...	2000	84	--	--	--	--	--	--	141	32
28...	2030	80	--	--	--	--	--	--	113	24
28...	2100	74	--	--	--	--	--	--	118	24
28...	2130	71	--	--	--	--	--	--	102	20
28...	2200	70	--	--	--	--	--	--	82	15
JAN 1986										
03...	1500	1.0	240	8.00	6.0	700	--	--	0	0.0
FEB										
25...	1430	5.6	135	6.70	7.0	700	--	--	3	0.05
MAR										
14...	1730	41	--	--	--	--	--	--	903	100
14...	1800	47	--	--	--	--	--	--	820	104
14...	1830	47	--	--	--	--	--	--	674	86
14...	1900	45	--	--	--	--	--	--	558	68
14...	1930	41	--	--	--	--	--	--	429	47
14...	2000	38	--	--	--	--	--	--	308	32
14...	2030	35	--	--	--	--	--	--	253	24
14...	2100	33	--	--	--	--	--	--	193	17
14...	2130	34	--	--	--	--	--	--	171	16
14...	2200	31	--	--	--	--	--	--	160	13
14...	2230	31	--	--	--	--	--	--	150	13
14...	2300	30	--	--	--	--	--	--	132	11
14...	2330	30	--	--	--	--	--	--	123	10
14...	2400	29	--	--	--	--	--	--	114	8.9
15...	0030	28	--	--	--	--	--	--	106	8.0
15...	0100	27	--	--	--	--	--	--	98	7.1
15...	0130	27	--	--	--	--	--	--	100	7.3
15...	0200	26	--	--	--	--	--	--	97	6.8
15...	0230	26	--	--	--	--	--	--	99	6.9
15...	0300	26	--	--	--	--	--	--	84	5.9
15...	0330	25	--	--	--	--	--	--	98	6.6
15...	0400	24	--	--	--	--	--	--	85	5.5
15...	0430	24	--	--	--	--	--	--	71	4.6
24...	1400	2.0	165	9.00	14.5	720	--	--	3	0.02
APR										
25...	1230	0.50	200	8.90	18.0	--	--	--	5	0.01

KANAWHA RIVER BASIN

03184950 SOAK CREEK AT SOPHIA, WV--Continued

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEGUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
MAY 1986										
12...	1900	44	--	--	--	--	--	--	2190	260
12...	1930	43	--	--	--	--	--	--	2470	287
12...	2000	38	--	--	--	--	--	--	1710	175
12...	2030	28	--	--	--	--	--	--	1260	95
12...	2100	20	--	--	--	--	--	--	886	48
12...	2130	15	--	--	--	--	--	--	720	29
12...	2200	14	--	--	--	--	--	--	563	21
12...	2230	13	--	--	--	--	--	--	394	14
12...	2300	12	--	--	--	--	--	--	363	12
12...	2330	12	--	--	--	--	--	--	299	9.7
12...	2400	12	--	--	--	--	--	--	263	8.5
13...	0030	12	--	--	--	--	--	--	219	7.1
13...	0100	12	--	--	--	--	--	--	200	6.5
13...	0130	12	--	--	--	--	--	--	200	6.5
13...	0200	13	--	--	--	--	--	--	174	6.1
13...	0230	13	--	--	--	--	--	--	176	6.2
13...	0300	13	--	--	--	--	--	--	185	6.5
13...	0330	13	--	--	--	--	--	--	180	6.3
13...	0400	13	--	--	--	--	--	--	170	6.0
13...	0430	12	--	--	--	--	--	--	153	5.0
13...	0500	12	--	--	--	--	--	--	128	4.1
13...	0530	12	--	--	--	--	--	--	105	3.4
JUN										
09...	1300	3.0	150	6.80	23.5	710	6.9	87	446	3.6
JUL										
01...	1850	14	--	--	--	--	--	--	501	19
01...	1920	17	--	--	--	--	--	--	524	24
01...	1945	21	--	--	--	--	--	--	531	30
08...	1400	0.39	195	9.30	31.0	710	--	--	26	0.03
AUG										
28...	1400	0.90	210	7.40	22.0	--	--	--	129	0.31

KANAWHA RIVER BASIN

03185400 NEW RIVER AT THURMOND, WV

LOCATION.--Lat 37°57'18", long 81°04'36", Fayette County, Hydrologic Unit 05050004, on right bank at Thurmond, at Chessie System pump house, 0.1 mi upstream from Dunloup Creek, 0.3 mi upstream from railroad/highway bridge, at New River mile 25.8 and Kanawha River mile 122.4.

DRAINAGE AREA.--6,687 mi².

PERIOD OF RECORD.--February 1981 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,030.71 (corrected) ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 5-17, Dec. 30, Jan. 28-29, and Mar. 7-8. Records good except for periods of estimated daily record, which are fair. Flow regulated by Claytor Lake and Bluestone Lake. National Park Service gage-height telemeter at station.

AVERAGE DISCHARGE.--5 years, 8,496 ft³/s, 17.25 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 89,400 ft³/s, Nov. 6, 1985, gage height, 18.95 ft, from rating curve extended above 59,000 ft³/s; minimum, 860 ft³/s, Aug. 26, 27, 1981, gage height, 1.45 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 89,400 ft³/s, Nov. 6, gage height, 18.95 ft; minimum, 1,130 ft³/s, Aug. 6-7, gage height, 1.84 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1470	2390	29300	3980	3540	10100	3500	5480	6840	2740	1940	1840
2	1200	3000	25400	4050	3960	7170	4800	5210	4470	6740	1820	1890
3	1140	9370	21600	3500	6980	5560	3810	4740	3930	8350	1740	6480
4	1460	9370	16600	3600	20200	5610	4140	4260	4400	11000	1670	10800
5	3800	45400	13400	3620	31500	7100	3620	3230	4340	7620	1230	7970
6	3200	72700	10600	2870	22100	7120	3600	2630	4840	4140	1150	7620
7	1600	53600	9750	2970	21800	7200	3540	2990	4230	3230	1380	6880
8	1400	28500	7420	3650	24800	6600	3030	3280	4270	2720	1440	3570
9	1500	21100	4600	2650	17400	5480	3740	3960	3590	2150	1820	3530
10	4000	20000	4660	2310	12500	4400	4680	4640	3480	2560	2210	4630
11	1500	8500	5860	2300	13400	4550	4660	4800	4210	2850	2120	3710
12	1500	7150	7450	2450	12900	11000	4260	3120	3950	3910	1740	2610
13	1300	7020	9900	2800	11000	12600	3650	4270	4140	4210	1650	2430
14	1200	7050	11400	3090	9800	13400	2740	13900	3890	3320	1680	2580
15	1300	4130	13800	3180	9270	48300	2840	12100	2650	2440	1480	2010
16	1600	4310	9410	3260	7620	59500	3920	10900	2660	2510	1450	1950
17	1600	3650	9100	3180	5880	37400	4530	8500	2250	2470	2090	1900
18	1500	2880	8400	2880	10800	20300	4520	6840	2200	2380	2100	2110
19	1500	2730	7800	3290	18800	17000	4530	6660	2860	1960	2270	1850
20	1510	4500	6540	4950	18700	14000	4240	15200	3200	1870	2230	2180
21	1550	4610	6020	7850	22500	12000	3020	29400	2450	1820	2640	1790
22	1600	7700	4370	12100	19500	10800	3140	26500	2430	1770	3260	1580
23	2200	12200	3290	9070	15800	7700	3700	17600	2370	1670	3680	1550
24	2590	13300	3080	9400	13000	5320	4930	13000	1830	1440	3720	1730
25	3260	10300	4260	6400	10500	5000	4760	8780	1790	1690	3810	1870
26	3340	9470	4120	6260	11500	6800	4640	7750	1790	1790	2860	1700
27	2590	10100	4240	4900	10700	6970	3450	7170	1780	2230	3470	1700
28	2240	13400	4770	5600	9990	6680	3650	8220	2160	2020	3840	1870
29	2150	25800	4470	5800	---	6100	4340	10000	2050	2550	3030	1710
30	2060	33500	2300	4850	---	3670	4770	10200	1630	2680	2470	1690
31	2380	---	2790	3520	---	3080	---	10100	---	2430	2080	---
TOTAL	61240	457730	276700	140330	396440	378510	118750	275430	96680	101260	70070	95730
MEAN	1975	15260	8926	4527	14160	12210	3958	8885	3223	3266	2260	3191
MAX	4000	72700	29300	12100	31500	59500	4930	29400	6840	11000	3840	10800
MIN	1140	2390	2300	2300	3540	3080	2740	2630	1630	1440	1150	1550

CAL YR 1985 TOTAL 2613820 MEAN 7161 MAX 72700 MIN 1010 CFSM 1.06 IN 14.43
WTR YR 1986 TOTAL 2468870 MEAN 6764 MAX 72700 MIN 1140 CFSM 1.00 IN 13.63

KANAWHA RIVER BASIN

03186500 WILLIAMS RIVER AT DYER, WV

LOCATION.--Lat 38°22'44", long 80°29'03", Webster County, Hydrologic Unit 05050005, on left bank at Dyer, 0.2 mi downstream from Craig Run, 7.0 mi southwest of Webster Springs, and at mile 2.3.

DRAINAGE AREA.--128 mi².

PERIOD OF RECORD.--September 1929 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1275: 1930.

GAGE.--Water-stage recorder. Datum of gage is 2,193.46 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to June 11, 1930, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 20-21, 25-31, and Jan. 1-3, 11-16. Records good except for periods with ice effect, which are poor.

AVERAGE DISCHARGE.--57 years, 334 ft³/s, 35.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft³/s, July 4, 1932, gage height, 18.45 ft, from floodmarks, from rating curve extended above 7,000 ft³/s on basis of slope-area measurements at gage heights 12.33 ft and 18.45 ft; minimum daily, 0.5 ft³/s, Oct. 13-16, 21, 1953; minimum gage height, 0.44 ft, Oct. 5, 6, 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 4	1830	*19,400	*16.69	July 2	1130	11,600	12.30
Feb. 4	0430	5,080	7.92	Aug. 17	2200	5,690	8.36
Mar. 14	2300	6,760	9.11				

Minimum discharge, 3.6 ft³/s, Oct. 1, gage height, 0.69 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	55	682	120	148	148	81	259	93	1410	95	193
2	5.6	121	530	110	208	149	77	214	79	5660	76	250
3	8.4	342	386	120	817	143	72	177	72	2170	64	250
4	33	7820	301	123	3340	125	67	149	60	904	53	226
5	35	6020	260	117	2400	113	64	131	53	490	43	362
6	22	2750	253	124	1450	104	65	116	57	318	35	382
7	16	1270	214	119	961	105	92	109	109	215	44	250
8	12	770	192	101	665	127	88	184	745	161	70	201
9	10	512	191	111	486	123	85	158	552	133	120	152
10	9.4	377	237	126	384	561	100	127	285	188	67	120
11	7.8	290	340	100	323	2370	100	111	302	129	78	102
12	7.8	234	1360	90	234	1050	152	99	554	106	86	89
13	7.8	233	1330	90	188	866	239	100	390	110	131	81
14	8.1	316	1110	85	172	2430	221	116	274	118	73	65
15	11	250	681	80	169	3050	192	123	196	87	53	55
16	19	226	479	90	160	1260	198	108	146	68	49	50
17	28	374	361	105	361	748	201	100	122	106	766	47
18	19	310	270	161	1140	514	250	101	97	112	1240	41
19	15	256	177	1150	1220	402	412	115	74	74	442	81
20	14	218	150	1290	1030	314	322	1070	77	880	290	215
21	306	187	130	675	717	243	351	622	98	354	268	114
22	241	636	143	567	559	194	412	412	63	185	382	82
23	121	811	158	601	499	179	381	305	57	256	438	65
24	92	509	136	451	403	156	347	232	471	171	1420	60
25	259	374	100	368	317	134	363	180	359	131	630	65
26	144	328	80	319	251	120	316	152	172	366	362	62
27	100	1140	110	255	236	122	263	145	116	1040	426	346
28	81	2410	100	236	189	115	225	243	249	382	832	862
29	67	2340	90	187	---	100	382	174	693	244	506	418
30	59	1060	100	177	---	92	313	132	353	169	339	268
31	57	---	110	158	---	86	---	113	---	124	235	---
TOTAL	1819.8	32539	10761	8406	19027	16243	6431	6377	6968	16861	9713	5554
MEAN	58.7	1085	347	271	680	524	214	206	232	544	313	185
MAX	306	7820	1360	1290	3340	3050	412	1070	745	5660	1420	862
MIN	3.9	55	80	80	148	86	64	99	53	68	35	41
CFSM	.46	8.48	2.71	2.12	5.31	4.09	1.67	1.61	1.81	4.25	2.45	1.45
IN.	.53	9.46	3.13	2.44	5.53	4.72	1.87	1.85	2.03	4.90	2.82	1.61

CAL YR 1985	TOTAL	128297.2	MEAN 351	MAX 7820	MIN 3.9	CFSM 2.74	IN 37.29
WTR YR 1986	TOTAL	140699.8	MEAN 385	MAX 7820	MIN 3.9	CFSM 3.01	IN 40.89

KANAWHA RIVER BASIN

03187500 CRANBERRY RIVER NEAR RICHWOOD, WV

LOCATION.--Lat 38°17'43", long 80°31'36", Nicholas County, Hydrologic Unit 05050005, Monongahela National Forest, on left bank 30 ft downstream from U.S. Forest Service highway bridge, 0.6 mi upstream from Barrenshe Run, 5.0 mi north of Richwood, and at mile 5.6.

DRAINAGE AREA.--80.4 mi².

PERIOD OF RECORD.--October 1944 to December 1951, June 1964 to September 1982, March 1984 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,100 ft above National Geodetic Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 20-31, Jan. 1-4, 30-31, and Feb. 15. Records good except for periods with ice effect, which are poor. Gage-height data for water years 1972-79 provided by U.S. Forest Service.

AVERAGE DISCHARGE.--27 years (water years 1945-51, 1965-82, 1985-86), 240 ft³/s, 40.54 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s, Nov. 4, 1985, gage height, 11.41 ft, from rating curve extended above 9,000 ft³/s on basis of slope-area measurement at gage height 11.00 ft, from floodmarks; minimum, 0.8 ft³/s, Sept. 17, 18, 1967, gage height 1.35 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 4	1745	*10,500	a*11.41	Mar. 14	2245	3,910	7.24
Nov. 28	1845	2,950	6.54	July 2	1030	6,830	9.02

a From floodmark.

Minimum discharge, 2.5 ft³/s, Oct. 1, gage height, 1.63 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	39	555	60	114	112	60	175	81	670	36	150
2	3.1	47	409	70	137	115	56	146	68	3690	31	190
3	4.2	124	300	65	413	103	54	121	63	1710	27	203
4	24	3990	236	70	2150	90	49	103	53	798	23	190
5	20	4320	203	71	1700	81	47	90	46	463	19	245
6	12	2240	190	73	1070	73	47	81	42	281	16	263
7	9.1	1030	157	81	714	71	55	79	84	185	17	180
8	7.6	605	139	63	495	81	54	139	877	132	40	146
9	6.6	404	135	71	356	87	53	130	445	130	75	112
10	5.8	293	157	72	284	300	62	99	239	227	42	87
11	5.6	230	218	72	242	1590	61	86	242	141	67	73
12	5.2	187	915	72	187	805	81	76	388	115	73	63
13	5.0	177	900	57	152	664	119	79	278	99	64	57
14	4.8	245	777	45	126	1570	112	106	206	84	42	47
15	5.6	192	490	46	110	2230	103	124	172	64	32	39
16	7.9	175	349	45	128	1020	110	101	124	52	27	35
17	14	266	269	42	233	580	121	84	92	64	304	32
18	11	233	212	73	664	400	157	78	72	71	515	29
19	8.8	192	162	819	749	311	272	103	58	49	311	30
20	8.2	165	100	945	635	248	227	826	55	42	287	42
21	102	139	85	505	485	197	242	485	61	75	227	37
22	151	368	80	396	380	157	275	325	44	62	224	30
23	76	580	100	400	342	137	257	248	41	117	266	25
24	55	372	90	318	281	119	236	187	242	79	1330	24
25	199	281	80	263	230	101	248	146	195	60	525	44
26	106	245	50	230	187	89	263	124	99	50	278	43
27	72	967	60	180	177	89	227	123	68	152	555	236
28	57	1600	70	130	139	84	192	245	63	108	847	458
29	47	1820	60	126	---	72	248	162	254	72	445	245
30	42	862	50	120	---	67	212	123	165	56	278	167
31	41	---	55	110	---	63	---	101	---	44	190	---
TOTAL	1119.0	22388	7653	5690	12880	11706	4300	5095	4917	9942	7213	3522
MEAN	36.1	746	247	184	460	378	143	164	164	321	233	117
MAX	199	4320	915	945	2150	2230	275	826	877	3690	1330	458
MIN	2.5	39	50	42	110	63	47	76	41	42	16	24
CFSM	.45	9.28	3.07	2.29	5.72	4.70	1.78	2.04	2.04	3.99	2.90	1.46
IN.	.52	10.36	3.54	2.63	5.96	5.42	1.99	2.36	2.28	4.60	3.34	1.63

CAL YR 1985	TOTAL	86782.1	MEAN 238	MAX 4320	MIN 2.5	CFSM 2.96	IN 40.15
WTR YR 1986	TOTAL	96425.0	MEAN 264	MAX 4320	MIN 2.5	CFSM 3.28	IN 44.61

KANAWHA RIVER BASIN

03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV

LOCATION.--Lat $38^{\circ}17'27''$, long $80^{\circ}38'57''$, Nicholas County, Hydrologic Unit 05050005, on right bank at downstream side of highway bridge on State Highway 20, 200 ft downstream from Cherry River, 1.8 mi downstream from Cranberry River, 2.7 mi south of Craigsville, and at mile 61.5.

DRAINAGE AREA.--529 mi².

PERIOD OF RECORD.--October 1964 to September 1982, October 1982 to September 1983 (gage heights, discharge measurements, and annual maximum discharge only), October 1985 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,870.00 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 20-22, Jan. 29-31, and Feb. 15. Records good except for periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--19 years (water years 1965-82, 1986), 1,471 ft³/s, 37.76 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,800 ft³/s, Nov. 4, 1985, gage height, 25.72 ft, from rating curve extended above 35,000 ft³/s; minimum discharge, 13 ft³/s, Sept. 27, 1967, Oct. 1, 2, 1985; minimum gage height, 8.60 ft, Sept. 12, 13, 21, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 4	2200	*61,800	*25.72	Mar. 11	1100	12,200	15.62
Nov. 28	2300	19,100	17.71	Mar. 15	0200	20,700	18.14
Feb. 4	0800	16,300	16.93	July 2	1400	32,600	20.92

Minimum discharge, 13 ft³/s, Oct. 1, 2, gage height, 8.61 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	154	3090	459	676	694	344	1180	431	3080	253	712
2	13	162	2350	488	940	676	322	990	350	19500	188	850
3	21	405	1750	459	3190	694	300	810	306	10200	155	940
4	80	23100	1360	488	13300	616	274	667	253	4000	126	870
5	107	27800	1170	512	9040	552	259	584	209	2180	98	1270
6	86	12900	1170	466	6050	528	253	512	192	1350	76	1660
7	58	5730	1000	544	4100	496	311	504	392	890	65	1060
8	43	3420	900	410	2940	362	404	790	2410	640	112	810
9	35	2320	890	452	2200	584	362	830	2080	536	253	600
10	30	1710	1060	568	1720	2570	438	640	1110	840	209	452
11	25	1320	1360	512	1470	9130	424	544	910	600	200	368
12	23	1060	4600	417	1110	4810	568	466	1760	473	248	311
13	22	970	5950	380	850	3520	800	459	1410	404	290	274
14	19	1330	5170	380	770	6830	810	584	1010	380	221	221
15	23	1150	3190	362	720	13400	721	616	750	306	139	173
16	28	1030	2260	317	703	5750	770	536	552	230	100	145
17	78	1380	1710	300	1580	3430	860	480	417	239	473	129
18	76	1310	1300	424	5310	2380	1210	459	333	386	3130	114
19	54	1110	830	3080	4850	1830	1970	544	248	259	1410	106
20	46	950	700	6460	3920	1450	1670	3470	209	800	1180	311
21	184	800	600	3300	2890	1140	1650	2850	269	830	830	322
22	953	2180	520	2520	2320	900	1930	1970	213	480	1120	209
23	445	3720	740	2800	2380	790	1970	1480	161	667	1360	151
24	317	2380	624	2270	1970	694	1760	1130	649	512	6360	132
25	686	1740	504	1830	1590	592	1700	860	1210	350	2650	155
26	566	1450	350	1590	1250	520	1830	703	496	356	1420	165
27	362	5730	424	1250	1150	528	1620	658	322	2600	1760	880
28	279	10500	473	820	930	520	1320	1130	259	1150	3450	3500
29	217	11400	404	740	---	438	1570	880	1650	694	2210	1720
30	180	4700	362	660	---	398	1440	658	1140	466	1380	1030
31	163	---	380	600	---	368	---	536	---	339	920	---
TOTAL	5232	133911	47191	35858	79919	67190	29860	28520	21701	55737	32386	19640
MEAN	169	4464	1522	1157	2854	2167	995	920	723	1798	1045	655
MAX	953	27800	5950	6460	13300	13400	1970	3470	2410	19500	6360	3500
MIN	13	154	350	300	676	362	253	459	161	230	65	106
CFSM	.32	8.44	2.88	2.19	5.40	4.10	1.88	1.74	1.37	3.40	1.98	1.24
IN.	.37	9.42	3.32	2.52	5.62	4.72	2.10	2.01	1.53	3.92	2.28	1.38

WTR YR 1986 TOTAL 557145 MEAN 1526 MAX 27800 MIN 13 CFSM 2.89 IN 39.18

KANAWHA RIVER BASIN

03189600 GAULEY RIVER BELOW SUMMERSVILLE DAM, WV

LOCATION.--Lat 38°12'54", long 80°53'18", Nicholas County, Hydrologic Unit 05050005, on right bank 0.4 mi downstream from Summersville Dam, 5.0 mi southwest of Summersville, and at mile 35.3.

DRAINAGE AREA.--806 mi².

PERIOD OF RECORD.--March 1966 to September 1982, October 1982 to current year (gage heights, discharge measurements, and annual maximum discharge only).

REVISED RECORDS.--WDR WV-67: 1966. WDR WV-82-1: Drainage area.

GAGE.--Water-state recorder. Datum of gage is 1,350.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records for winter periods not adjusted for ice effect. Flow regulated by Summersville Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--16 years (water years 1967-82), 2,154 ft³/s, 36.29 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft³/s, Mar. 26, 1966, gage height, 19.30 ft; minimum, 1.9 ft³/s, Feb. 16, 17, 1967, gage height, 3.67 ft; minimum daily, 2.4 ft³/s, Feb. 10, 13-16, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,300 ft³/s, July 2, gage height, 18.09 ft; minimum gage height, 5.58 ft, Apr. 8.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.85	7.95	16.50	6.39	8.41	8.92	6.48	5.75	7.45	11.39	6.89	8.38
2	7.88	8.49	15.61	7.01	8.86	8.47	6.24	5.75	6.80	16.92	7.90	8.38
3	7.69	8.83	13.04	8.04	11.59	8.36	6.24	5.74	6.25	18.01	7.90	8.64
4	7.69	12.53	10.77	8.22	15.34	8.63	6.24	5.74	6.15	17.88	8.20	9.01
5	7.68	16.25	9.22	8.22	16.37	8.15	6.25	5.74	6.87	16.27	8.68	9.12
6	7.69	14.22	9.49	7.80	16.42	8.08	6.25	5.74	7.68	12.16	8.68	10.66
7	6.20	16.06	9.68	7.25	16.39	8.46	6.25	5.74	7.43	9.15	8.66	9.63
8	6.20	16.76	9.02	7.26	15.12	8.17	6.03	5.79	9.42	8.38	7.68	8.32
9	6.61	15.68	8.56	7.26	12.13	8.15	5.75	5.87	11.16	7.84	6.25	7.81
10	7.11	16.54	9.13	7.25	10.74	10.40	5.79	5.87	9.28	8.56	6.23	7.81
11	7.30	17.05	9.78	7.25	10.41	14.84	5.79	5.87	8.27	8.29	6.28	7.05
12	7.58	16.95	12.85	7.12	9.55	16.32	5.79	5.87	9.92	7.58	6.55	8.15
13	7.58	16.84	15.75	7.03	8.82	14.30	5.80	5.87	9.49	7.16	6.53	8.81
14	7.58	16.71	15.52	6.92	8.65	13.35	5.80	5.87	8.18	7.16	6.97	8.86
15	7.58	14.73	13.45	6.79	8.58	15.88	5.80	5.87	7.97	6.95	7.65	6.70
16	7.71	12.49	11.27	6.79	8.81	16.04	5.81	5.87	7.71	6.61	7.65	6.24
17	7.82	11.68	10.66	6.79	10.10	9.64	5.81	5.87	7.43	6.48	7.66	6.24
18	7.83	10.99	10.10	6.93	15.43	16.40	5.81	5.87	6.74	6.27	6.61	6.25
19	7.82	10.05	8.72	8.78	15.34	13.99	5.81	5.88	6.40	6.39	5.89	6.24
20	7.82	10.07	7.84	10.20	13.89	10.88	5.82	5.89	6.40	6.80	6.87	8.15
21	7.93	10.03	8.10	13.24	12.10	9.91	5.82	5.88	6.40	9.20	7.21	8.09
22	9.34	10.79	8.33	14.70	11.18	8.98	5.83	5.88	6.40	8.23	7.94	6.22
23	9.64	12.99	8.44	13.53	11.46	8.33	5.83	5.88	6.40	7.20	9.40	6.22
24	9.16	13.11	8.22	12.75	11.20	8.46	5.79	5.88	6.40	7.20	14.77	6.22
25	9.49	11.91	7.81	11.13	10.60	8.34	5.74	7.42	7.93	6.99	12.90	6.03
26	9.66	11.26	7.59	10.49	9.94	8.01	5.75	8.54	8.51	6.75	10.00	6.17
27	9.69	13.99	7.32	9.80	9.52	7.76	5.75	8.22	7.74	8.85	9.76	8.55
28	9.60	16.34	7.49	8.42	9.48	7.76	5.75	8.40	7.28	9.47	12.78	9.84
29	8.61	16.56	7.51	8.10	---	7.76	5.75	8.73	8.34	9.20	11.13	10.54
30	7.48	16.59	7.38	9.29	---	7.39	5.75	8.73	9.03	9.02	9.47	10.54
31	7.47	---	6.87	9.25	---	6.94	---	8.17	---	7.24	8.78	---
MEAN	7.98	13.48	10.07	8.71	11.66	10.23	5.91	6.39	7.71	9.21	8.38	7.96
MAX	9.69	17.05	16.50	14.70	16.42	16.40	6.48	8.73	11.16	18.01	14.77	10.66
MIN	6.20	7.95	6.87	6.39	8.41	6.94	5.74	5.74	6.15	6.27	5.89	6.03

WTR YR 1986 MEAN 8.95 MAX 18.01 MIN 5.74

KANAWHA RIVER BASIN

03190400 MEADOW RIVER NEAR MOUNT LOOKOUT, WV

LOCATION.--Lat 38°11'23", long 80°56'49", Nicholas County, Hydrologic Unit 05050005, on right bank 1,000 ft upstream from mouth, and 2.5 mi northwest of Mount Lookout.

DRAINAGE AREA.--365 mi².

PERIOD OF RECORD.--September 1966 to September 1983, October 1985 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,200 ft, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 29-30, and Feb. 15. Records good except for periods with ice effect, which are fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--18 years, (water years 1967-83, 1986), 759 ft³/s, 28.24 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,500 ft³/s, Mar. 7, 1967, gage height, 13.44 ft; minimum discharge, 7.9 ft³/s, Oct. 1, 1985; minimum gage height, 2.51 ft, Sept. 12, 13, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 6	0030	*8,100	*10.04	Mar. 15	0300	6,300	9.19
Nov. 29	0030	6,450	9.26	July 1	2000	6,050	9.07
Feb. 4	0700	5,340	8.69	July 2	1000	7,200	9.62

Minimum discharge, 7.9 ft³/s, Oct. 1, gage height, 2.57 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	30	2310	237	435	520	228	485	356	1860	85	77
2	10	28	1760	256	600	475	216	425	292	5430	71	71
3	14	29	1280	288	1670	490	205	368	244	3030	61	115
4	20	1100	959	308	4910	480	195	316	207	1540	51	237
5	23	7040	756	336	4190	455	185	280	182	973	46	500
6	17	6270	690	284	3030	460	180	252	172	696	41	738
7	16	3290	585	320	2710	460	185	231	190	440	43	470
8	17	1900	515	237	2460	348	182	308	190	264	43	312
9	14	1180	490	200	1970	445	177	384	272	202	42	210
10	12	775	565	213	1540	1210	187	316	205	272	47	160
11	11	539	672	216	1240	2950	190	272	170	868	48	123
12	10	409	980	219	931	2630	185	237	157	684	49	107
13	9.5	344	2450	213	672	1900	185	231	155	520	67	95
14	9.1	308	2990	202	525	2430	177	405	133	372	58	85
15	9.7	276	2040	192	450	5700	170	535	113	260	43	75
16	9.8	240	1490	182	490	3970	182	500	97	200	37	64
17	9.9	228	1100	172	1310	2580	216	445	86	165	85	56
18	10	248	822	200	2390	1770	352	368	78	140	135	49
19	10	231	545	690	2340	1280	510	410	65	127	107	46
20	11	216	470	3170	1900	945	535	1730	58	109	75	50
21	25	202	435	2140	1530	714	530	1720	54	93	72	68
22	36	344	344	1740	1210	575	590	1320	49	81	123	63
23	78	1490	380	1770	1150	490	654	996	46	150	140	53
24	77	1230	384	1480	1040	430	648	732	47	210	190	47
25	73	945	328	1160	952	376	618	530	80	145	150	49
26	115	774	244	1000	822	336	750	425	101	103	137	67
27	92	3200	260	828	744	336	854	392	71	213	115	92
28	63	4440	276	555	630	320	720	570	53	368	145	304
29	46	5310	240	500	---	288	624	606	71	225	160	292
30	38	3250	222	450	---	260	565	525	97	165	129	195
31	33	---	222	425	---	244	---	440	---	111	92	---
TOTAL	927.5	45866	26804	20183	43841	35867	11195	16754	4091	20016	2687	4870
MEAN	29.9	1529	865	651	1566	1157	373	540	136	646	86.7	162
MAX	115	7040	2990	3170	4910	5700	854	1730	356	5430	190	738
MIN	8.5	28	222	172	435	244	170	231	46	81	37	46
CFSM	.08	4.19	2.37	1.78	4.29	3.17	1.02	1.48	.37	1.77	.24	.44
IN.	.09	4.67	2.73	2.06	4.47	3.66	1.14	1.71	.42	2.04	.27	.50

WTR YR 1986 TOTAL 233101.5 MEAN 639 MAX 7040 MIN 8.5 CFSM 1.75 IN 23.76

KANAWHA RIVER BASIN

03192000 GAULEY RIVER ABOVE BELVA, WV

LOCATION.--Lat 38°14'00", long 81°10'52", Nicholas County, Hydrologic Unit 05050005, on right bank 0.5 mi upstream from Belva, 1.0 mi upstream from Twentymile Creek, and at mile 6.3.

DRAINAGE AREA.--1,317 mi².

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 873: 1938. WSP 1275: 1929-30, WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 669.00 ft above National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1965 by Summersville Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--58 years, 2,734 ft³/s, 28.19 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 105,000 ft³/s, July 5, 1932, gage height, 28.60 ft, from rating curve extended above 65,000 ft³/s on basis of velocity-area studies and inflow and storage adjustment to record for Kanawha River at Kanawha Falls; minimum, 3.2 ft³/s, Oct. 21, 1953, gage height, 0.10 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 42,200 ft³/s, July 2, gage height, 17.90 ft; minimum, 164 ft³/s, Sept. 26, gage height, 1.17 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1090	704	13100	617	1710	2240	785	702	1060	5480	482	1150
2	1040	1090	11500	595	1930	1870	536	632	633	27800	757	1140
3	1010	1160	6460	1110	4450	1700	513	561	640	18800	890	1190
4	971	5480	4780	1330	13200	1890	496	496	509	15700	880	1680
5	962	21100	2440	1360	15100	1880	480	448	720	11800	1180	1880
6	990	15400	2480	1300	13800	1520	473	417	1040	6540	1200	3230
7	412	12900	2590	999	13900	1920	474	393	1120	2170	1200	2750
8	217	13600	2330	882	11800	1600	470	487	1560	1530	1180	1600
9	217	9900	1790	871	6800	1590	386	618	3780	1150	454	1080
10	439	10600	1960	932	4520	2980	317	571	2620	1440	275	993
11	551	11800	2580	874	3810	9780	333	490	1440	2100	285	911
12	680	11400	5070	866	3190	13000	328	446	1720	1650	324	503
13	712	11100	12800	790	2160	10200	315	443	2740	1250	390	1170
14	720	10800	13200	744	1890	7130	317	487	1280	1070	390	1620
15	728	9050	8780	673	1760	16000	307	714	1040	926	693	772
16	736	4450	5300	631	1850	15400	324	696	1010	664	773	362
17	800	4180	3890	640	3930	5760	366	640	827	588	816	279
18	792	3280	3400	655	12500	11300	443	595	752	467	848	273
19	792	2550	2300	1110	12300	9460	629	633	399	399	315	270
20	800	2210	1400	5210	8590	4100	726	2310	367	467	319	847
21	881	2380	1420	6670	6210	2990	767	2040	360	1070	733	1220
22	1160	3130	1430	9680	4670	2390	894	1590	348	1530	699	526
23	2200	6400	1480	7720	4690	1590	1040	1220	342	704	1340	271
24	1400	6740	1570	6890	4720	1620	1000	917	367	818	7660	266
25	1700	5130	1250	4680	3810	1550	925	680	419	760	6140	263
26	1770	3990	1120	3880	3510	1380	910	551	1400	565	2710	220
27	1880	9800	943	3330	2670	1220	1130	1130	935	944	1640	1400
28	1740	18300	977	2160	2720	1200	995	1570	768	2320	4510	2150
29	1580	19500	1060	1770	---	1160	862	1890	768	1640	3880	2860
30	784	14900	919	2480	---	1120	782	2130	1550	1720	2000	2700
31	704	---	917	2300	---	847	---	1870	---	1020	1480	---
TOTAL	30458	253024	121236	73749	172190	138387	18323	28367	32514	115082	46443	35576
MEAN	983	8434	3911	2379	6150	4464	611	915	1084	3712	1498	1186
MAX	2200	21100	13200	9680	15100	16000	1130	2310	3780	27800	7660	3230
MIN	217	704	917	595	1710	847	307	393	342	399	275	220
CAL YR 1985	TOTAL	1038516	MEAN	2845	MAX	22500	MIN	114	CFSM	2.16	IN	29.33
WTR YR 1986	TOTAL	1065349	MEAN	2919	MAX	27800	MIN	217	CFSM	2.22	IN	30.09

KANAWHA RIVER BASIN

03193000 KANAWHA RIVER AT KANAWHA FALLS, WV

LOCATION.--Lat 38°08'17", long 81°12'52", Fayette County, Hydrologic Unit 05050006, on right bank 150 ft downstream from bridge, 0.8 mi downstream from village of Kanawha Falls, 2.0 mi downstream from Gauley Bridge, 2.0 mi downstream from confluence of New River and Gauley River, and at mile 94.3.

DRAINAGE AREA.--8,371 mi².

PERIOD OF RECORD.--March 1877 to current year. October 1916 to September 1918 and October 1927 to October 1928, published as "at Lock 2, Montgomery".

REVISED RECORDS.--WSP 923: 1878, 1886, 1897, 1899, 1901-3. WSP 1305: 1902(M), 1940. WSP 1335: 1931. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 621.20 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1928, nonrecording gages at several sites within 9.0 mi of present site at various datums. Oct. 27, 1928, to Sept. 30, 1964, water-stage recorder at present site at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1939 by Claytor Lake, since 1949 by Bluestone Lake, and since 1965 by Summersville Lake. U.S. Army Corps of Engineers satellite telemeter and Appalachian Power Co. remote sender at station.

AVERAGE DISCHARGE.--109 years, 12,535 ft³/s, 20.34 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 320,000 ft³/s, Sept. 14, 1878, gage height, 37.8 ft, site and datum then in use, from gage-height relation and rating curve extended above 150,000 ft³/s; minimum, 640 ft³/s, Aug. 15, 1930, gage height, -0.95 ft datum then in use; minimum daily, 690 ft³/s, Oct. 29, 1921.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 103,000 ft³/s, Nov. 6, gage height, 17.58 ft; minimum, 1,130 ft³/s, Oct. 8, gage height, 1.62 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2580	3320	45300	4840	6060	13200	4390	6470	9480	9680	2780	3270
2	2440	3900	39900	5230	6700	9580	5990	6360	6680	41000	2650	3370
3	2240	9660	30900	5180	10800	8590	4870	5800	5410	30600	2800	6060
4	2470	13900	24300	5380	33200	7830	5270	5470	5270	29000	2680	12200
5	3760	63800	16400	5560	49300	9400	4670	4210	5510	22800	2720	11900
6	5630	89100	14000	4890	39600	9460	4560	3490	6130	13300	2680	11100
7	3670	68500	12800	4380	37900	9820	4550	3590	6190	6500	2360	10700
8	2030	46200	11400	5070	40900	8720	3980	3980	6370	4920	2910	6110
9	1700	31500	7580	3890	28800	7840	4340	4970	8430	4100	2390	4880
10	1870	34500	7180	3720	18300	8180	5340	5530	6750	5210	2670	6270
11	2040	22800	8440	3310	17700	15700	5520	5860	6420	6780	2590	4970
12	2150	19100	12100	3670	17900	24000	5150	4250	6060	6640	2280	3800
13	2300	20200	25900	3980	13700	25300	4590	4310	7420	6710	2220	3530
14	2100	19900	27100	4240	12600	20600	3710	12800	5910	5980	2160	4500
15	1980	14800	25800	4210	11000	60500	3520	13600	4360	4290	2210	3380
16	2200	9430	16700	4270	11100	78800	4160	11500	3910	3770	2380	2530
17	2440	8760	13600	4260	11800	48200	5200	10100	3430	3540	2980	2350
18	2420	6890	13000	4030	25500	35300	5540	8060	3240	3360	3210	2510
19	2360	5700	11000	4620	34800	29200	5710	7260	3350	2930	2920	2450
20	2430	6410	8720	11100	29400	20100	5630	17000	3710	2320	2700	2640
21	2760	7550	8230	13300	30800	15500	4520	31700	3310	2980	3440	3330
22	2790	9440	6890	24700	27000	14000	4510	32100	2970	3910	3990	2620
23	4560	20400	5500	19000	23100	10600	5090	21300	2950	2580	5190	2110
24	3920	21500	5220	18200	19900	7890	6490	15700	2670	2430	10900	1920
25	5260	16700	6020	13300	15100	6830	6150	10300	2170	2500	11300	2390
26	5540	13900	5750	11300	15900	8620	6390	10200	3240	2570	6340	2250
27	4890	22000	5700	9610	14200	8700	5420	8710	3040	2970	5070	2760
28	4280	33600	6180	7690	13200	8350	5120	9890	2730	4760	8420	4600
29	4290	47800	6320	7720	---	8140	5540	11300	3280	4420	8090	5230
30	3120	51500	4420	7730	---	5530	6030	13000	3360	4680	4880	4560
31	3130	---	4000	6650	---	4640	---	13100	---	3930	3990	---
TOTAL	95350	742760	436350	235030	616260	549120	151950	321910	143750	251160	123900	140290
MEAN	3076	24760	14080	7582	22010	17710	5065	10380	4792	8102	3997	4676
MAX	5630	89100	45300	24700	49300	78800	6490	32100	9480	41000	11300	12200
MIN	1700	3320	4000	3310	6060	4640	3520	3490	2170	2320	2160	1920

CAL YR 1985 TOTAL 3925300 MEAN 10750 MAX 89100 MIN 1700 CFSM 1.28 IN 17.44
WTR YR 1986 TOTAL 3807830 MEAN 10430 MAX 89100 MIN 1700 CFSM 1.25 IN 16.92

KANAWHA RIVER BASIN

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03193742 KANAWHA RIVER AT GLASGOW, WV

LOCATION.--Lat. 38°12'23", long 81°25'30", Kanawha County, Hydrologic Unit 05050006, on right bank at Glasgow Power Plant, at Glasgow, 0.6 mi upstream from Kellys Creek, and at mile 78.4.

DRAINAGE AREA.--8,631 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 1977 to current year.

COOPERATION.--Records were furnished by Appalachian Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 30°C, Aug. 21, 1978, Aug. 3, 1981, July 22, Aug. 21, 1983, July 12, 1984, July 25, 1986; minimum daily, -0.5°C, Jan. 27, 1982, Feb. 1, 3, 4, 1985.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum daily observed, 30.0°C, July 25; minimum daily observed, 0.0°C, Jan. 14.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	.5	2.0	4.0	13.5	15.5	21.0	24.5	---	22.0
2	---	---	13.0	.5	2.0	4.5	---	16.5	20.5	20.0	---	22.0
3	---	---	10.5	1.5	---	5.0	---	16.5	20.5	18.0	---	21.0
4	---	---	9.5	3.0	---	4.5	16.0	16.5	21.0	---	---	23.0
5	---	---	9.0	3.5	---	4.5	14.5	18.5	---	---	26.5	21.0
6	---	13.5	9.5	8.5	10.5	---	16.5	---	23.5	---	27.0	21.5
7	---	11.5	10.0	2.0	4.0	5.5	17.0	18.5	24.0	25.0	28.0	---
8	---	10.5	10.5	---	4.5	5.5	17.0	19.5	24.5	20.0	26.5	21.5
9	---	11.0	12.0	---	6.5	3.5	16.5	18.5	22.0	24.5	26.5	20.5
10	---	10.0	14.5	1.0	5.5	5.0	---	---	21.5	23.0	26.5	21.5
11	---	10.5	22.0	---	5.0	6.5	15.5	---	21.5	23.5	25.5	22.0
12	22.0	12.0	5.5	---	4.5	6.5	15.0	21.0	20.0	24.5	26.0	20.5
13	---	13.5	6.0	1.5	4.0	---	15.0	20.5	24.5	---	26.0	20.5
14	20.0	---	6.0	.0	---	---	14.0	19.5	22.0	24.5	---	20.5
15	21.0	---	4.5	1.0	---	---	14.5	20.0	21.5	25.5	---	21.0
16	21.0	---	4.0	---	---	---	14.5	20.0	---	24.0	---	21.0
17	18.0	---	---	---	---	---	14.5	19.0	24.5	---	---	21.5
18	18.0	12.0	4.5	---	4.0	---	14.5	19.5	25.0	27.0	---	21.5
19	18.5	---	3.0	---	---	9.5	14.5	20.0	---	26.5	28.0	21.5
20	18.5	---	---	---	---	10.0	15.0	---	25.0	28.0	25.5	21.5
21	18.5	14.5	---	---	6.5	9.5	14.5	18.0	---	29.0	26.5	21.5
22	20.5	---	---	---	---	9.5	13.5	18.5	---	28.0	25.5	21.5
23	22.0	---	---	---	6.5	9.5	13.5	16.0	25.0	28.0	26.0	23.0
24	24.5	---	---	3.0	---	9.5	---	---	26.5	---	26.0	23.0
25	10.0	---	---	6.5	---	9.5	14.0	---	26.5	30.0	24.5	24.0
26	11.0	---	---	3.0	3.5	---	14.5	---	25.5	---	21.5	21.5
27	11.5	---	---	1.0	3.5	---	15.0	---	26.5	28.5	---	25.0
28	---	---	---	---	4.5	11.0	15.0	17.0	26.0	29.0	24.0	25.0
29	---	---	---	1.0	---	11.5	---	19.0	---	28.5	19.5	25.0
30	---	---	.5	---	---	13.0	17.0	18.0	25.0	27.0	19.5	25.5
31	---	---	.5	1.0	---	13.5	---	---	---	27.0	21.5	---
MEAN	18.5	12.0	8.0	2.5	5.0	8.0	15.0	18.5	23.5	25.5	25.0	22.0
WTR YR 1986	MEAN	16.0		MAX	30.0	MIN	.0					

KANAWHA RIVER BASIN

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV

LOCATION.--Lat 38°35'50", long 80°29'26", Webster County, Hydrologic Unit 05050007, on right bank 200 ft upstream from bridge on County Highway 7, 6.5 mi upstream from town of Centralia, 8.9 mi southwest of Salisbury Station, 8.9 mi northwest of Webster Springs, and at mile 125.2.

DRAINAGE AREA.--266 mi².

PERIOD OF RECORD.--October 1959 to September 1983, October 1985 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorders. Elevation of gage is 1,020.1 ft above National Geodetic Vertical Datum of 1929, from altimeters.

REMARKS.--Estimated daily discharges: Jan. 8-9, 13-15, 29-31. Records fair except for periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--25 years (water years 1960-83, 1986), 703 ft³/s, 35.89 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,000 ft³/s, Nov. 4, 1985, gage height, 17.2 ft, from floodmarks, from rating curve extended above 24,000 ft³/s; minimum discharge, 6.5 ft³/s, Oct. 1, 1959, minimum gage height, 2.94 ft, Oct. 1, 1985.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1861, probably in September, reached a stage of 26.34 ft and flood of July 26, 1896, reached a stage of 25.87 ft, present datum, at site 0.2 mi upstream, from levels to floodmarks pointed out by a local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 4	2300	*38,000	*17.20	Feb. 4	0730	9,910	9.95
Nov. 27	1700	8,960	9.60	Mar. 15	0300	12,000	10.54
Nov. 28	2300	12,300	10.77	July 2	1600	10,100	9.92

Minimum discharge, 28 ft³/s, Oct. 1, gage height, 2.94 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	177	1480	201	303	396	177	757	187	1020	121	130
2	30	161	1070	215	439	365	168	602	154	5150	100	125
3	32	163	790	215	1470	370	159	474	134	4440	83	152
4	58	9770	616	229	6460	345	149	380	118	1870	79	165
5	142	14900	523	249	4160	317	142	326	110	1030	66	174
6	90	5380	542	290	3070	308	147	286	123	637	58	233
7	67	2680	492	252	1880	312	286	273	118	434	51	208
8	54	1680	439	210	1340	237	451	340	1120	326	49	149
9	46	1170	434	180	992	294	434	326	773	273	59	116
10	41	892	504	152	773	1120	480	273	480	396	88	95
11	38	718	630	177	666	4980	480	237	451	331	83	79
12	36	602	2820	159	516	2520	602	208	1020	326	80	73
13	35	480	3550	150	412	1630	928	197	773	277	74	68
14	36	798	2810	130	370	2590	866	208	555	249	64	65
15	50	726	1670	120	375	7340	703	194	396	222	55	56
16	146	623	1120	110	355	2820	623	201	294	184	47	49
17	164	644	815	134	1160	1660	616	241	249	184	43	44
18	106	630	623	174	3180	1110	734	204	222	171	91	40
19	83	548	445	758	2560	815	1020	277	157	130	116	42
20	83	474	391	2580	1960	644	910	2300	147	121	121	66
21	903	406	375	1400	1480	510	857	1620	261	401	105	73
22	971	919	340	1170	1420	406	1060	1040	177	350	165	61
23	575	1990	326	1380	1570	360	1160	734	137	380	261	53
24	410	1240	294	1090	1240	326	983	548	401	365	360	49
25	550	866	277	831	937	286	892	417	673	245	396	49
26	498	695	201	711	703	256	790	340	412	201	273	59
27	384	3980	184	588	616	249	658	299	273	630	187	703
28	305	6530	201	417	504	256	542	340	806	406	290	1400
29	253	6460	194	340	---	222	955	340	2170	273	331	718
30	217	2490	194	280	---	204	964	273	1320	222	245	445
31	198	---	174	250	---	190	---	226	---	157	165	---
TOTAL	6630	68792	24524	15142	40911	33438	18936	14481	14211	21401	4306	5739
MEAN	214	2293	791	488	1461	1079	631	467	474	690	139	191
MAX	971	14900	3550	2580	6460	7340	1160	2300	2170	5150	396	1400
MIN	29	161	174	110	303	190	142	194	110	121	43	40
CFSM	.81	8.62	2.97	1.84	5.49	4.06	2.37	1.76	1.78	2.59	.52	.72
IN.	.93	9.62	3.43	2.12	5.72	4.68	2.65	2.03	1.99	2.99	.60	.80

WTR YR 1986 TOTAL 268511 MEAN 736 MAX 14900 MIN 29 CFSM 2.77 IN 37.55

KANAWHA RIVER BASIN

03195100 RIGHT FORK HOLLY RIVER AT GUARDIAN, WV

LOCATION.--Lat 38°38'07", long 80°27'58", Webster County, Hydrologic Unit 05050007, on right bank at Guardian, 50 ft upstream from Bear Run, and at mile 8.1.

DRAINAGE AREA.--51.9 mi².

PERIOD OF RECORD.--March 1974 to September 1978, October 1978 to September 1982 (gage heights, occasional discharge measurements, and annual maximum discharge only), October 1985 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,078.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 20, 23, and Jan. 7, 28-31. Records good except for periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--5 years (water years 1975-78, 1986), 96 ft³/s, 25.12 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,400 ft³/s, July 16, 1979, gage height, 14.50 ft, from rating curve extended above 2,600 ft³/s; minimum discharge, 0.22 ft³/s, Oct. 1, 1985; minimum gage height, 2.68 ft, Aug. 26, 27, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 4	2230	2,650	10.17	Feb. 4	0630	1,510	8.22
Nov. 22	1730	876	6.84	Feb. 17	1900	2,030	9.14
Nov. 27	1700	1,900	8.92	Mar. 11	0500	952	7.03
Nov. 28	2200	*3,000	*10.70	Mar. 15	0300	1,200	7.60
Dec. 12	1130	1,090	7.36	July 2	1300	1,700	8.58
Dec. 13	1500	1,060	7.30				

Minimum discharge, 0.22 ft³/s, Oct. 1, gage height, 2.97.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	4.8	174	35	63	84	28	60	16	110	12	3.5
2	.83	5.1	123	39	160	80	27	54	14	968	11	4.0
3	.95	5.7	86	46	466	80	26	46	13	651	9.6	6.0
4	3.1	894	70	53	1080	79	24	41	10	198	7.3	6.3
5	5.8	1670	68	62	471	79	23	38	11	97	5.4	6.8
6	4.5	783	92	57	326	86	27	35	20	57	4.6	11
7	3.1	302	92	47	215	89	56	33	15	38	4.0	6.5
8	2.3	154	93	41	147	76	58	51	57	29	5.6	4.7
9	2.3	106	97	41	115	92	70	42	44	35	8.9	3.6
10	2.3	81	112	47	97	455	82	37	29	56	5.8	2.8
11	2.5	70	125	44	88	747	89	32	60	42	8.5	2.3
12	2.3	63	751	40	68	321	92	29	103	69	8.9	3.4
13	1.9	67	862	38	56	189	92	30	65	57	5.0	2.3
14	2.1	89	541	30	60	270	79	31	44	45	4.0	2.1
15	3.8	88	245	30	55	875	71	24	31	47	3.0	2.1
16	15	80	152	25	57	368	77	20	22	36	2.3	1.5
17	10	76	110	30	730	203	94	18	23	48	2.2	1.1
18	5.4	67	83	44	807	137	167	16	16	37	2.8	.94
19	4.2	61	56	179	354	107	174	28	11	30	2.8	1.1
20	9.1	55	53	493	224	84	142	195	22	41	3.0	5.1
21	35	48	51	250	190	66	126	155	22	266	3.1	4.8
22	29	427	45	286	243	55	176	111	13	112	3.7	3.0
23	16	446	42	391	350	51	232	85	10	62	5.4	5.1
24	11	202	42	244	256	46	206	65	41	41	11	3.0
25	14	127	37	169	175	40	168	50	37	30	8.6	4.8
26	12	101	26	150	134	38	133	41	23	43	4.2	5.5
27	8.6	923	38	128	117	40	101	38	16	68	4.2	126
28	6.9	1560	33	80	94	36	82	35	102	37	17	106
29	5.7	1220	30	65	---	33	77	27	278	28	13	41
30	5.2	325	27	55	---	31	64	23	124	21	6.4	23
31	4.8	---	32	50	---	30	---	20	---	16	4.2	---
TOTAL	230.00	10100.6	4388	3289	7198	4967	2863	1510	1292	3415	197.5	399.34
MEAN	7.42	337	142	106	257	160	95.4	48.7	43.1	110	6.37	13.3
MAX	35	1670	862	493	1080	875	232	195	278	968	17	126
MIN	.32	4.8	26	25	55	30	23	16	10	16	2.2	.94
CFSM	.14	6.49	2.74	2.04	4.95	3.08	1.84	.94	.83	2.12	.12	.26
IN.	.16	7.24	3.15	2.36	5.16	3.56	2.05	1.08	.93	2.45	.14	.29

WTR YR 1986 TOTAL 39849.44 MEAN 109 MAX 1670 MIN .32 CFSM 2.10 IN 28.56

KANAWHA RIVER BASIN

03195250 LEFT FORK HOLLY RIVER NEAR REPLETE, WV

LOCATION.--Lat 38°41'19", long 80°25'57", Webster County, Hydrologic Unit 05050007, on left bank at Poling, 100 ft downstream from Potts Run, 1.8 mi southeast of Replete, and at mile 12.3.

DRAINAGE AREA.--46.5 mi².

PERIOD OF RECORD.--March 1974 to September 1978; October 1978 to September 1982 (gage heights, occasional discharge measurements, and annual maximum discharge only); October 1985 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,190 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 20, 22, 23, 30-31, and Jan. 1, 8-16, 29-31. Records good except for periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--5 years (water years 1975-78, 1986), 114 ft³/s, 33.29 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,480 ft³/s, Nov. 4, 1985, gage height, 11.98 ft; minimum discharge, 0.69 ft³/s, Oct. 1, 1985; minimum gage height, 4.30 ft., Aug. 27, 28, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 4	2230	*3,480	*11.98	Feb. 4	0530	1,480	9.46
Nov. 22	1730	930	8.41	Feb. 17	1800	2,070	10.34
Nov. 27	1530	1,610	9.69	Mar. 11	0430	1,260	9.07
Nov. 28	2030	3,330	11.81	Mar. 15	0230	1,210	8.98
Dec. 12	1200	952	8.46	June 28	1530	866	8.27
Dec. 13	1500	1,030	8.62	July 2	2330	2,280	10.60

Minimum discharge, 0.69 ft³/s, Oct. 1, gage height, 4.40 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	3.5	271	45	81	102	34	97	17	162	8.8	8.2
2	1.3	3.2	194	50	239	95	32	83	15	1100	7.3	7.9
3	1.4	3.6	133	60	611	95	30	68	13	1140	7.0	8.0
4	3.0	1050	104	65	1150	92	28	59	11	370	6.1	8.0
5	3.3	2020	98	75	681	84	27	53	16	177	5.1	7.8
6	2.2	921	130	71	466	96	34	49	13	94	4.4	9.0
7	1.7	478	126	63	322	96	67	48	10	58	4.1	7.0
8	1.5	284	124	54	239	82	62	152	24	43	9.5	5.7
9	1.3	199	126	54	193	108	77	136	22	46	12	5.1
10	1.1	142	152	60	159	520	98	105	12	82	7.9	4.4
11	1.2	109	180	58	138	972	111	81	32	62	13	3.9
12	1.1	89	724	54	101	476	148	64	47	91	12	4.6
13	1.1	129	889	50	81	298	165	60	31	78	7.4	5.9
14	1.0	226	663	40	89	363	139	56	22	66	5.6	5.1
15	1.5	189	350	30	77	936	117	45	16	69	4.4	3.9
16	5.6	156	228	35	71	461	120	37	11	52	3.7	3.3
17	3.6	155	163	43	803	278	152	32	13	66	3.3	2.9
18	2.2	134	115	69	968	194	248	29	10	50	3.2	2.8
19	1.7	113	78	266	542	148	255	41	7.5	40	3.2	3.4
20	4.5	91	70	566	338	114	210	260	18	39	6.1	6.5
21	82	74	63	338	290	87	192	240	20	148	6.8	6.1
22	48	488	58	385	362	70	290	187	10	83	5.6	4.8
23	26	577	56	473	443	63	352	141	7.4	53	7.9	4.4
24	16	301	54	319	339	57	314	103	77	39	43	4.4
25	20	194	48	237	248	50	272	74	55	28	20	5.8
26	15	148	45	212	191	47	228	58	30	30	9.9	6.1
27	11	985	59	176	162	49	178	51	19	39	12	79
28	8.5	1820	46	122	123	45	142	48	422	24	43	119
29	6.1	1280	41	85	---	41	132	38	476	20	26	58
30	4.5	471	36	75	---	38	107	32	231	16	14	38
31	3.9	---	40	65	---	36	---	28	---	11	9.9	---
TOTAL	282.18	12833.3	5464	4295	9507	6193	4361	2555	1707.9	4376	332.2	439.0
MEAN	9.10	428	176	139	340	200	145	82.4	56.9	141	10.7	14.6
MAX	82	2020	889	566	1150	972	352	260	476	1140	43	119
MIN	.88	3.2	36	30	71	36	27	28	7.4	11	3.2	2.8
CFSM	.20	9.20	3.79	2.99	7.31	4.30	3.12	1.77	1.22	3.03	.23	.31
IN.	.23	10.27	4.37	3.44	7.61	4.95	3.49	2.04	1.37	3.50	.27	.35

WTR YR 1986 TOTAL 52345.58 MEAN 143 MAX 2020 MIN .88 CFSM 3.08 IN 41.88

KANAWHA RIVER BASIN

03195500 ELK RIVER AT SUTTON, WV

LOCATION.--Lat 38°39'47", long 80°42'35", Braxton County, Hydrologic Unit 05050007, on left bank 150 ft upstream from highway bridge at Sutton, 0.5 mi upstream from Granny Creek, 0.9 mi downstream from Sutton Dam, 2.5 mi downstream from Wolf Creek, and at mile 102.1.

DRAINAGE AREA.--542 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only October 1938 to February 1939, published in WSP 1305.

REVISED RECORDS.--WSP 1305: 1942(M), 1948-50(M). WDR WV82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 800.00 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 5, 1940, nonrecording gage and Apr. 5, 1940, to Sept. 30, 1960, water-stage recorder at site 150 ft downstream at datum 8.03 ft higher.

REMARKS.--No estimated daily discharges. Water-discharge records good. Flow regulated since 1960 by Sutton Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--48 years, 1,148 ft³/s, 28.76 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,200 ft³/s, Jan. 29, 1957, gage height, 39.30 ft, present datum; minimum, 0.4 ft³/s, Oct. 25, 26, 28, 29, 1953; minimum gage height, 9.87 ft, Oct. 25, 1953, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 13, 1918, reached a stage of 45.2 ft, present datum, from floodmarks, discharge, about 49,000 ft³/s, from rating curve extended above 28,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,720 ft³/s, Dec. 2, gage height, 22.02 ft; minimum daily, 90 ft³/s, Aug. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	453	389	5410	426	677	970	284	1080	272	2010	456	93
2	451	390	8390	424	1010	862	223	1060	272	3720	617	93
3	447	392	9560	426	1780	862	186	777	272	7290	613	93
4	446	1180	9110	425	3990	864	163	602	249	7060	588	95
5	446	275	7550	426	5540	867	156	504	200	5430	548	95
6	445	2490	5020	541	6170	871	141	449	198	2130	545	91
7	320	5780	3930	613	7450	870	147	450	199	650	529	91
8	112	7820	3450	609	6110	696	163	734	721	642	346	91
9	165	7800	2570	397	4200	574	178	691	1220	528	109	91
10	225	7780	1620	260	2370	1390	179	510	656	830	91	91
11	243	7700	1370	261	1420	4420	179	508	512	906	112	203
12	273	7560	1580	262	1340	6080	179	507	1080	897	137	268
13	272	7340	3380	264	900	5420	180	509	1480	705	126	264
14	272	4900	4990	264	686	4200	287	508	855	567	195	264
15	272	1160	4930	294	642	5400	270	426	626	564	281	300
16	288	1020	4770	399	639	6480	147	348	489	559	279	326
17	306	1020	4240	399	779	6000	209	313	441	701	280	326
18	308	1020	2820	399	2820	4590	260	311	328	520	199	327
19	313	1010	1620	641	6140	3000	223	347	236	409	91	263
20	319	1420	665	1030	6790	1450	218	2660	241	345	90	205
21	263	1820	570	1800	6170	851	226	3110	239	1380	91	205
22	175	2890	570	2700	4120	804	1030	1820	240	1450	91	205
23	173	3660	529	3700	4200	629	1910	1360	241	821	92	500
24	174	3620	475	4620	3850	571	1900	1020	435	552	93	953
25	170	3550	476	4180	2330	570	1890	782	756	554	91	881
26	296	3130	474	3320	1650	482	1890	612	732	558	91	492
27	373	2670	474	2300	1440	409	1390	541	472	560	93	713
28	312	3030	474	1150	1220	408	1070	503	495	555	93	1810
29	318	209	457	980	---	407	1080	503	2750	603	93	1670
30	395	659	426	980	---	407	1080	495	4340	647	93	1170
31	391	---	424	790	---	406	---	417	---	544	93	---
TOTAL	9416	93684	92324	35280	86433	61810	17438	24457	21247	44687	7246	12269
MEAN	304	3123	2978	1138	3087	1994	581	789	708	1442	234	409
MAX	453	7820	9560	4620	7450	6480	1910	3110	4340	7290	617	1810
MIN	112	209	424	260	639	406	141	311	198	345	90	91

CAL YR 1985 TOTAL 481926 MEAN 1320 MAX 9560 MIN 103 CFSM 2.44 IN 33.08
WTR YR 1986 TOTAL 506291 MEAN 1387 MAX 9560 MIN 90 CFSM 2.56 IN 34.75

KANAWHA RIVER BASIN

03195500 ELK RIVER AT SUTTON, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-83, February 1985 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1985 to current year.

WATER TEMPERATURE: March 1960 to September 1983, February 1985 to current year.

TURBIDITY: January 1974 to March 1975, February 1985 to current year.

SUSPENDED-SEDIMENT DISCHARGE: February 1985 to current year.

INSTRUMENTATION.--Temperature recorder March 1960 to September 1983.

REMARKS.--Sediment samples were taken once daily by an observer. Specific conductance and turbidity were taken in the lab from the sediment bottles. Lab analyses performed by West Virginia Department of Natural Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 144 microsiemens, June 1, 1986; minimum daily, 46 microsiemens, Feb. 8, 1986.

WATER TEMPERATURE: Maximum daily, 30.0°C, Aug. 12, 14, 15, 1985; minimum daily, 0.0°C many days during winter periods.

TURBIDITY: Maximum daily, 120 NTU, Nov. 8, 1985; minimum daily, 0.5 NTU, Aug. 11, 1985.

SEDIMENT CONCENTRATION: Maximum daily mean, 150 mg/L, Nov. 6, 1985; minimum daily mean, 0 mg/L on many days during each year.

SEDIMENT LOAD: Maximum daily, 2,320 tons, Nov. 8, 1985; minimum daily, 0 ton on many days during each year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 144 microsiemens, June 1; minimum daily, 46 microsiemens, Feb. 8.

WATER TEMPERATURE: Maximum daily, 27.0°C, several days during June, July; minimum daily, 0.0°C, Dec. 28, Jan. 6, 8, 14, 21.

TURBIDITY: Maximum daily, 120 NTU, Nov. 8; minimum daily, 1.0 NTU, several days during the year.

SEDIMENT CONCENTRATION: Maximum daily mean, 150 mg/L, Nov. 6; minimum daily mean, 0 mg/L on many days during the year.

SEDIMENT LOAD: Maximum daily, 2,320 tons, Nov. 8; minimum daily, 0 ton on many days during the year.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	76	67	65	56	54	69	67	144	67	75	87
2	91	105	63	66	55	53	78	69	104	70	77	92
3	89	75	55	70	57	51	77	70	106	68	75	80
4	88	73	55	68	61	51	78	63	103	64	76	89
5	91	65	53	70	60	53	---	70	107	70	76	---
6	90	64	50	70	54	60	---	67	114	57	78	93
7	89	66	59	77	51	59	77	70	107	72	77	90
8	92	62	61	76	46	57	88	64	129	74	82	---
9	87	60	64	79	49	60	84	56	115	78	76	82
10	89	65	67	83	54	60	81	70	114	71	84	106
11	86	73	66	93	53	63	115	66	105	70	80	98
12	89	73	67	56	57	70	78	73	102	68	88	95
13	96	82	64	83	51	57	82	64	73	74	88	78
14	90	72	62	91	52	51	78	67	85	71	87	87
15	89	82	58	78	57	53	69	68	86	72	87	81
16	89	82	54	77	57	58	71	65	82	73	103	83
17	88	78	52	80	60	57	69	65	77	72	---	84
18	88	77	55	74	61	52	75	68	77	75	100	84
19	89	86	52	75	63	51	76	66	75	78	85	78
20	89	80	55	75	48	50	75	69	80	75	94	77
21	81	92	66	73	47	58	76	61	79	81	94	91
22	---	91	56	77	54	49	68	65	80	74	86	89
23	85	86	57	71	56	68	67	66	75	81	86	91
24	80	81	55	68	58	63	70	113	75	77	89	85
25	80	73	60	58	60	74	70	116	76	80	77	83
26	82	72	60	57	58	69	72	99	75	73	97	90
27	85	70	60	58	57	71	75	117	77	74	84	86
28	82	72	57	58	60	78	92	102	77	78	87	58
29	93	85	58	57	---	78	75	113	66	77	76	87
30	85	76	59	55	---	82	67	103	65	75	91	87
31	81	---	64	52	---	73	---	101	---	75	82	---
MEAN	87	76	59	71	55	61	77	77	91	73	85	86
WTR YR 1986	MEAN	75		MAX	144	MIN	46					

03195500 ELK RIVER AT SUTTON, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	15.0	7.5	2.0	2.0	2.5	11.5	22.0	24.0	25.0	23.0	18.0
2	17.0	14.0	5.0	2.5	1.5	2.0	12.0	20.0	22.0	24.0	24.0	18.0
3	16.0	16.0	5.0	2.5	2.0	2.5	13.5	19.0	22.0	24.0	24.0	18.0
4	19.0	14.0	5.5	2.5	1.5	3.0	13.0	20.0	21.0	25.0	22.0	18.0
5	19.0	13.0	6.0	1.0	2.0	2.5	---	22.0	23.0	25.0	22.0	17.0
6	19.0	12.0	5.5	.0	2.0	3.0	---	24.0	22.0	26.0	23.0	18.0
7	19.0	11.0	6.0	1.0	1.0	3.0	15.0	24.0	22.0	27.0	23.0	19.0
8	19.0	11.0	6.0	.0	1.0	3.5	14.0	20.0	23.0	27.0	23.0	18.0
9	18.0	10.0	6.0	1.0	1.5	4.0	15.5	20.0	24.0	25.0	22.0	19.0
10	18.0	10.0	6.0	1.5	1.5	3.5	16.0	24.0	23.0	26.0	23.0	19.0
11	18.0	11.0	5.5	2.5	1.0	3.5	18.0	22.0	25.0	26.0	22.0	19.0
12	20.0	10.0	5.5	1.0	1.5	3.5	19.0	22.0	24.0	27.0	22.0	19.0
13	18.0	10.0	5.0	1.5	1.5	4.0	21.0	21.0	23.0	26.0	23.0	18.0
14	18.0	10.0	5.0	.0	1.0	4.0	21.5	23.0	26.0	27.0	21.0	20.0
15	17.0	8.0	5.5	1.0	1.0	4.0	22.0	21.0	24.0	26.0	21.0	19.0
16	16.0	10.0	6.0	1.0	1.5	4.5	20.0	23.0	26.0	25.0	20.0	18.0
17	17.0	9.0	6.0	1.5	1.0	5.0	21.0	22.0	25.0	25.0	20.0	18.0
18	16.0	10.0	5.5	2.5	1.0	5.0	22.0	24.0	24.0	25.0	21.0	18.0
19	16.0	11.0	5.5	1.0	1.0	5.0	22.0	23.0	23.0	26.0	21.0	19.0
20	15.0	10.0	5.0	1.5	1.0	5.5	22.0	21.0	23.0	24.0	20.0	18.0
21	16.0	9.0	3.5	.0	1.0	5.0	21.0	21.0	23.0	24.0	21.0	18.0
22	---	8.0	3.5	1.5	1.5	6.0	19.0	20.0	25.0	24.0	21.0	18.0
23	16.0	6.0	4.0	1.5	1.0	7.0	19.5	20.0	27.0	25.0	20.0	17.0
24	17.0	8.0	3.5	1.0	1.5	7.0	20.0	21.0	24.0	23.0	20.0	17.0
25	16.0	9.0	3.0	1.0	1.5	7.5	20.0	19.0	25.0	24.0	20.0	17.0
26	15.0	9.0	2.5	1.0	2.0	8.5	21.0	21.0	24.0	23.0	20.0	17.0
27	16.0	9.0	1.5	1.5	2.0	9.0	19.0	20.0	27.0	24.0	19.0	16.0
28	16.0	8.0	.0	1.5	2.5	9.0	22.0	21.0	25.0	23.0	19.0	16.0
29	15.0	9.0	1.0	1.5	---	11.0	21.0	23.0	24.0	23.0	19.0	16.0
30	16.0	8.0	2.0	1.0	---	11.0	20.0	24.0	26.0	24.0	19.0	16.0
31	15.0	---	1.5	1.5	---	11.0	---	22.0	---	22.0	19.0	---
MEAN	17.0	10.5	4.5	1.5	1.5	5.5	18.5	21.5	24.0	25.0	21.0	18.0
WTR YR 1986	MEAN	14.0		MAX	27.0	MIN	.0					

TURBIDITY (NTU), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	40	10	4.5	6.4	15	8.5	3.0	4.0	2.0	6.0	5.0
2	2.0	30	15	2.0	7.1	10	5.5	3.0	5.0	3.0	3.0	2.0
3	2.0	35	20	4.0	6.1	10	8.0	2.5	4.0	10	5.0	3.0
4	2.5	40	20	4.5	4.7	10	7.0	1.0	4.0	20	2.0	4.0
5	3.0	120	25	2.0	9.8	6.6	---	1.5	3.0	3.0	4.0	2.0
6	2.5	120	15	4.5	40	10	---	2.0	3.0	9.0	2.0	2.0
7	2.0	110	10	7.0	20	7.4	6.5	2.5	4.0	3.0	2.0	2.0
8	1.5	120	10	2.5	15	6.8	4.5	2.5	4.0	5.0	2.0	---
9	1.0	75	10	3.5	20	6.9	3.0	1.5	4.0	4.0	2.0	2.0
10	1.5	30	8.0	5.0	15	7.0	9.0	2.0	4.0	2.0	6.0	2.0
11	1.5	30	7.0	3.4	15	6.6	3.0	1.5	4.0	5.0	2.0	2.0
12	1.0	30	7.5	5.0	20	7.3	6.5	2.5	5.0	2.0	3.0	2.0
13	1.5	15	8.0	3.0	10	25	5.5	2.0	3.0	2.0	3.0	2.0
14	2.5	15	10	4.5	10	30	9.5	2.0	2.0	3.0	3.0	2.0
15	1.0	10	15	4.0	10	15	4.0	1.0	4.5	3.0	2.0	2.0
16	3.0	10	15	4.0	10	55	4.0	1.5	6.5	2.0	8.0	2.0
17	2.0	15	15	2.6	25	60	6.5	4.0	4.5	3.0	4.0	2.0
18	2.0	15	10	3.0	10	35	3.0	1.5	4.0	1.0	3.0	3.0
19	2.5	10	10	6.0	30	35	4.0	1.5	3.0	2.0	2.0	3.0
20	2.5	15	10	4.0	30	30	3.5	1.0	3.0	55	2.0	4.0
21	4.5	6.0	5.0	4.5	30	20	5.0	3.5	2.0	9.0	3.0	2.0
22	---	8.0	5.0	3.5	15	20	5.0	2.5	2.0	3.0	2.0	2.0
23	4.0	7.0	6.0	7.1	15	15	4.5	1.8	6.0	5.0	3.0	1.0
24	2.5	10	9.0	10	15	15	5.5	7.0	4.0	3.0	3.0	2.0
25	2.5	15	6.0	8.3	20	10	4.0	6.0	5.0	2.0	4.0	2.0
26	2.5	15	6.5	8.8	20	15	2.5	6.0	4.0	2.0	3.0	2.0
27	2.5	15	8.0	8.3	15	10	5.0	4.0	3.0	3.0	3.0	2.0
28	2.5	10	8.5	8.3	10	5.5	2.5	4.0	2.0	2.0	3.0	7.0
29	2.0	5.0	4.0	7.7	---	10	2.5	3.0	2.0	3.0	3.0	2.0
30	2.5	9.0	7.0	6.2	---	7.0	2.0	5.0	4.0	2.0	3.0	2.0
31	40	---	2.5	6.3	---	7.5	---	4.0	---	3.0	3.0	---
MEAN	3.5	33	10	5.1	16	17	5.0	2.8	3.8	5.7	3.2	2.5
WTR YR 1986	MEAN	9.0		MAX	120	MIN	1.0					

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)	
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)	
OCTOBER												
1	2	2.4	83	87	15	219	3	3.5	2	3.7	15	39
2	3	3.7	80	84	15	340	1	1.1	3	8.2	13	30
3	2	2.4	73	77	18	465	4	4.6	2	9.6	10	23
4	2	2.4	80	273	18	443	2	2.3	3	32	8	19
5	1	1.2	27	26	22	448	1	1.2	7	105	3	7.0
6	0	.00	150	1010	18	244	2	2.9	30	500	4	9.4
7	1	.86	123	1920	15	159	9	15	28	563	3	7.0
8	1	.30	110	2320	12	112	3	4.9	18	297	2	3.6
9	1	.45	70	1470	10	69	2	2.1	15	170	2	3.1
10	1	.61	30	630	10	44	6	4.2	16	102	5	19
11	0	.00	22	457	8	30	4	2.8	17	65	5	60
12	0	.00	19	388	8	34	3	2.1	18	65	7	115
13	1	.73	11	218	8	73	3	2.1	13	32	20	293
14	0	.00	10	132	12	162	13	9.3	10	19	23	261
15	0	.00	11	34	16	213	6	4.8	11	19	18	262
16	11	8.6	10	28	17	219	4	4.3	11	19	40	700
17	7	5.8	12	33	16	183	5	5.4	28	59	47	761
18	2	1.7	14	39	13	99	4	4.3	20	152	35	434
19	3	2.5	11	30	10	44	6	10	36	597	35	283
20	1	.86	8	31	11	20	5	14	29	532	31	121
21	3	2.1	9	44	17	26	6	29	27	450	18	41
22	7	3.3	9	70	11	17	6	44	17	189	15	33
23	3	1.4	14	138	6	11	10	100	13	147	19	32
24	1	.47	14	137	8	7.7	10	125	13	135	15	23
25	0	.00	14	134	7	9.0	8	90	18	113	18	28
26	1	.80	16	135	8	10	7	63	16	71	19	25
27	1	1.0	16	115	8	10	2	12	12	47	15	17
28	0	.00	15	123	7	9.0	4	12	12	40	11	12
29	0	.00	8	4.5	5	6.2	5	13	---	---	21	23
30	1	1.1	12	21	4	4.6	2	5.3	---	---	15	16
31	45	48	---	---	2	2.3	1	2.1	---	---	10	11
TOTAL	---	92.68	---	10208.5	---	3732.8	---	596.3	---	4541.5	---	3711.3
APRIL												
1	7	5.4	6	17	1	.73	2	11	5	6.2	1	.25
2	5	3.0	5	14	0	.00	4	40	13	22	0	.00
3	8	4.0	4	8.4	0	.00	16	315	6	9.9	0	.00
4	9	4.0	3	4.9	0	.00	30	572	4	6.4	0	.00
5	6	2.5	1	1.4	1	.54	12	176	6	8.9	0	.00
6	5	1.9	0	.00	0	.00	18	104	6	8.8	0	.00
7	5	2.0	0	.00	0	.00	7	12	2	2.9	1	.25
8	9	4.0	1	2.0	1	1.9	7	12	5	4.7	0	.00
9	5	2.4	1	1.9	2	6.6	6	8.6	5	1.5	1	.25
10	8	3.9	1	1.4	1	1.8	5	11	5	1.2	0	.00
11	6	2.9	1	1.4	0	.00	6	15	6	1.8	2	1.1
12	7	3.4	1	1.4	1	2.9	5	12	3	1.1	0	.00
13	7	3.4	1	1.4	4	16	7	13	2	.68	1	.71
14	10	7.7	0	.00	3	6.9	5	7.7	3	1.6	0	.00
15	7	5.1	0	.00	3	5.1	4	6.1	2	1.5	1	.81
16	9	3.6	0	.00	2	2.6	3	4.5	8	6.0	0	.00
17	9	5.1	2	1.7	1	1.2	5	9.5	16	12	1	.88
18	7	4.9	1	.84	2	1.8	2	2.8	13	7.0	2	1.8
19	5	3.0	0	.00	1	.64	2	2.2	5	1.2	2	1.4
20	5	2.9	0	.00	2	1.3	23	21	5	1.2	1	.55
21	8	4.9	0	.00	1	.65	55	205	4	.98	1	.55
22	10	28	0	.00	1	.65	7	27	4	.98	1	.55
23	9	46	0	.00	17	11	11	24	3	.75	1	1.4
24	10	51	2	5.5	10	12	10	15	2	.50	0	.00
25	8	41	2	4.2	1	2.0	3	4.5	5	1.2	1	2.4
26	5	26	1	1.7	4	7.9	3	4.5	5	1.2	1	1.3
27	12	45	0	.00	6	7.6	6	9.1	6	1.5	1	1.9
28	24	69	0	.00	4	5.3	5	7.5	16	4.0	7	34
29	15	44	0	.00	2	15	7	11	15	3.8	3	14
30	7	20	1	1.3	2	23	6	10	8	2.0	4	13
31	---	---	0	.00	---	---	2	2.9	4	1.0	---	---
TOTAL	---	450.0	---	70.44	---	135.11	---	1675.9	---	124.49	---	77.10
TOTAL LOAD FOR YEAR:		25416.12 TONS.										

KANAWHA RIVER BASIN

03196600 ELK RIVER NEAR FRAMETOWN, WV

LOCATION.--Lat 38°35'32", long 80°53'05", Braxton County, Hydrologic Unit 05050007, on right bank opposite mouth of Birch River, at village of Glendon, 2.2 mi upstream from Strange Creek, 3.2 mi southwest of Frametown, and at mile 82.6. Records include flow of Birch River.

DRAINAGE AREA.--751 mi², includes that of Birch River.

PERIOD OF RECORD.--October 1958 to September 1981, October 1981 to current year (gage heights and annual maximum discharge only).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 775.51 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1959, nonrecording gage at same site and datum.

REMARKS.--Records for winter periods not adjusted for ice effect. Flow regulated since 1960 by Sutton Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--23 years (water years 1958-81), 1,572 ft³/s, 28.39 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft³/s, Mar. 15, 1967, gage height, 16.05 ft; minimum discharge, 9.0 ft³/s, Sept. 28, 29, 1959; minimum gage height, 1.30 ft, Aug. 20, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,100 ft³/s, Nov. 4, gage height, 14.16 ft; minimum gage height, 1.30 ft, Aug. 20.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.28	2.12	6.08	2.40	2.88	3.50	2.25	3.32	2.04	4.51	2.33	1.37
2	2.31	2.13	8.84	2.40	3.36	3.26	1.95	3.28	1.96	6.39	2.54	1.38
3	2.27	2.16	9.76	2.43	4.29	3.24	1.92	3.09	1.95	8.89	2.60	1.36
4	2.26	6.06	9.55	2.42	7.02	3.29	1.79	2.67	1.94	8.42	2.60	1.51
5	2.26	9.12	8.94	2.43	8.07	3.34	1.76	2.59	1.83	7.35	2.49	1.78
6	2.26	5.85	7.00	2.47	7.92	3.40	1.79	2.40	1.78	4.75	2.49	1.80
7	2.25	7.01	6.01	2.68	9.17	3.45	2.25	2.39	1.89	2.93	2.47	1.59
8	1.62	8.76	5.48	2.59	8.40	3.25	2.13	2.67	2.23	2.68	2.45	1.47
9	1.41	8.56	4.98	2.50	6.56	2.98	2.11	2.94	3.46	2.65	1.73	1.40
10	1.71	8.50	3.95	2.06	5.17	3.54	2.14	2.51	2.95	2.81	1.43	1.37
11	1.78	8.43	3.68	2.07	3.89	6.64	2.12	2.47	2.51	3.43	1.38	1.36
12	1.88	8.33	4.69	2.05	3.69	8.10	2.10	2.46	2.99	3.55	1.50	1.96
13	1.90	8.24	7.08	2.05	3.43	7.56	2.08	2.55	3.80	3.14	1.49	1.93
14	1.90	7.39	7.97	1.99	2.94	6.66	2.07	2.57	3.18	2.80	1.49	1.90
15	1.91	3.56	7.05	2.01	2.93	8.24	2.39	2.46	2.74	2.84	1.83	1.89
16	1.91	3.21	6.66	2.19	2.86	8.58	2.02	2.25	2.50	2.63	1.89	2.01
17	1.99	3.23	6.24	2.25	5.94	7.97	2.15	2.11	2.32	2.72	1.95	2.01
18	2.00	3.19	5.06	2.27	6.69	6.91	2.49	2.19	2.26	2.74	1.93	2.01
19	2.01	3.17	4.07	2.44	8.23	5.33	2.56	2.32	1.88	2.38	1.49	2.15
20	2.09	3.35	2.94	3.77	8.66	4.20	2.47	4.21	1.90	2.15	1.32	2.01
21	2.21	3.86	2.69	4.03	8.24	3.12	2.58	5.79	1.91	3.19	1.37	1.86
22	2.10	5.54	2.61	5.24	7.01	3.05	3.17	4.25	1.87	3.72	1.40	1.79
23	1.88	6.65	2.67	6.31	6.41	2.86	4.61	3.83	1.85	3.17	1.39	1.82
24	1.78	5.85	2.53	6.58	6.70	2.67	4.45	3.30	2.08	2.53	1.59	2.96
25	1.75	5.55	2.52	6.63	5.18	2.64	4.33	3.04	2.54	2.51	1.53	3.03
26	1.76	5.25	2.45	5.55	4.35	2.60	4.39	2.78	2.92	2.81	1.39	2.69
27	2.17	8.00	2.47	5.20	4.03	2.38	4.08	2.60	2.45	3.06	1.39	3.43
28	2.13	9.92	2.48	3.66	3.88	2.35	3.50	2.50	2.23	2.70	1.51	4.85
29	1.77	7.43	2.46	3.36	---	2.33	3.42	2.46	3.62	2.62	1.55	4.24
30	2.13	3.51	2.35	3.29	---	2.31	3.36	2.44	5.98	2.70	1.43	3.42
31	2.14	---	2.35	3.14	---	2.30	---	2.43	---	2.62	1.37	---
MEAN	1.99	5.80	4.96	3.24	5.64	4.26	2.68	2.87	2.52	3.59	1.78	2.15
MAX	2.31	9.92	9.76	6.63	9.17	8.58	4.61	5.79	5.98	8.89	2.60	4.85
MIN	1.41	2.12	2.35	1.99	2.86	2.30	1.76	2.11	1.78	2.15	1.32	1.36

WTR YR 1986 MEAN 3.44 MAX 9.92 MIN 1.32

KANAWHA RIVER BASIN

03196800 ELK RIVER AT CLAY, WV

LOCATION.--Lat 38°27'38", long 81°05'16", Clay County, Hydrologic Unit 05050007, on right bank at downstream side of pier of highway bridge at Clay, 0.9 mi downstream from Buffalo Creek, 2.1 mi downstream from Lower Two Run Creek, and at mile 53.7.

DRAINAGE AREA.--992 mi².

PERIOD OF RECORD.--October 1958 to September 1978, October 1978 to current year (gage heights, occasional discharge measurements, and annual maximum discharge only). Gage height records collected at same site since 1915 are contained in reports of National Weather Service.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 677.46 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--Records for winter periods not adjusted for ice effect. Flow regulated since 1960 by Sutton Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--20 years (water years 1959-78), 1,926 ft³/s, 26.31 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,000 ft³/s, Mar. 15, 1967, gage height, 22.80 ft; minimum, 1.5 ft³/s, Sept. 22, 1959, gage height, -0.13 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 14, 1918, reached a stage of 32.4 ft, from reports of National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,600 ft³/s, Nov. 29, gage height, 16.65 ft; minimum gage height, 0.72 ft, Oct. 10.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.58	1.42	5.74	2.19	3.03	4.09	1.88	3.32	1.76	5.43	1.75	.80
2	1.62	1.43	9.27	2.20	3.58	3.66	1.70	3.22	1.40	7.09	1.55	.81
3	1.57	1.45	10.02	2.28	4.90	3.51	1.48	3.05	1.32	9.47	1.83	.79
4	1.53	5.02	9.99	2.28	8.54	3.60	1.42	2.44	1.30	9.12	1.82	.81
5	1.53	13.23	9.69	2.30	9.57	3.75	1.32	2.23	1.30	8.26	1.76	1.14
6	1.51	7.93	8.19	2.25	9.24	3.88	1.43	2.00	1.19	6.08	1.69	1.30
7	1.51	7.45	7.19	2.41	10.50	4.12	1.85	1.89	1.20	3.07	1.67	1.16
8	1.40	9.20	6.42	2.20	9.99	3.78	2.03	3.02	1.89	2.13	1.72	.96
9	.87	9.02	6.01	2.32	8.14	3.41	1.87	2.86	2.67	2.13	1.59	.86
10	.73	8.92	4.61	2.24	6.68	3.53	1.89	2.39	3.00	2.38	.95	.80
11	.98	8.84	4.06	1.94	4.78	6.89	1.88	2.05	2.36	2.75	.82	.76
12	1.04	8.77	5.60	1.86	4.19	9.12	1.78	2.06	2.21	3.62	.77	.86
13	1.14	8.70	8.47	1.78	3.98	8.71	1.70	2.66	3.33	3.03	.82	1.29
14	1.17	8.60	10.11	1.83	3.14	7.98	1.65	2.74	3.19	2.46	.83	1.19
15	1.19	4.67	8.45	1.60	3.12	9.86	1.78	2.59	2.41	2.34	.81	1.15
16	1.20	3.19	7.78	1.64	2.96	9.97	1.93	2.18	2.00	2.12	1.11	1.16
17	1.18	3.15	7.35	1.91	7.45	9.19	1.88	1.89	1.74	1.99	1.19	1.24
18	1.25	3.05	6.16	1.99	10.33	8.26	2.10	1.91	1.58	2.26	1.33	1.24
19	1.26	2.99	4.90	2.07	9.54	6.69	2.39	2.59	1.43	1.78	1.18	1.25
20	1.31	2.95	3.40	3.63	9.74	5.41	2.36	4.46	1.17	1.59	.88	1.60
21	1.62	3.75	2.68	4.21	9.35	3.43	2.57	7.37	1.20	1.94	.80	1.23
22	1.80	6.00	2.43	6.04	8.69	3.09	3.23	5.34	1.16	3.33	.83	1.09
23	1.44	8.67	2.55	7.73	7.72	2.92	5.31	4.48	1.16	3.09	.88	1.05
24	1.20	7.12	2.44	7.69	8.23	2.59	5.42	3.62	1.18	2.13	1.20	1.57
25	1.18	6.53	2.33	7.91	6.83	2.43	5.08	3.13	1.49	1.76	1.06	2.50
26	1.08	6.21	2.19	6.92	5.52	2.36	5.14	2.67	2.09	1.87	.93	2.32
27	1.17	9.53	2.21	6.72	4.96	2.23	4.96	2.37	2.02	3.46	.85	2.99
28	1.44	13.29	2.26	4.53	4.76	2.03	3.94	2.18	1.62	2.29	.92	6.77
29	1.32	12.36	2.21	3.85	---	1.97	3.63	1.99	1.60	1.98	.96	5.04
30	1.14	5.53	2.12	3.58	---	1.94	3.43	1.95	5.92	1.94	.92	3.47
31	1.42	---	2.09	3.36	---	1.91	---	1.94	---	1.95	.83	---
MEAN	1.30	6.63	5.45	3.40	6.77	4.72	2.63	2.86	1.93	3.38	1.17	1.64
MAX	1.80	13.29	10.11	7.91	10.50	9.97	5.42	7.37	5.92	9.47	1.83	6.77
MIN	.73	1.42	2.09	1.60	2.96	1.91	1.32	1.89	1.16	1.59	.77	.76

WTR YR 1986 MEAN 3.47 MAX 13.29 MIN .73

KANAWHA RIVER BASIN

03197000 ELK RIVER AT QUEEN SHOALS, WV

LOCATION.--Lat 38°28'15", long 81°17'03", Kanawha County, Hydrologic Unit 05050007, on right bank 50 ft upstream from Queen Shoals Creek, 100 ft downstream from highway bridge at Queen Shoals, 4.0 mi upstream from Big Sandy Creek, and at mile 26.2. Records include flow of Queen Shoals Creek.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--1,145 mi², includes that of Queen Shoals Creek.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only October, November 1928, published in WSP 1305.

REVISED RECORDS.--WSP 783: Drainage area. WSP 1335: 1929-32, 1935(M), 1936, 1939, 1943(M).

GAGE.--Water-stage recorder. Datum of gage is 604.09 ft above National Geodetic Vertical Datum of 1929. Prior to June 19, 1932, nonrecording gage and June 19, 1932, to Sept. 30, 1946, water-stage recorder, at bridge 100 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Water-discharge records good. Flow regulated since 1960 by Sutton Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--58 years, 2,049 ft³/s, 24.30 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,000 ft³/s, July 5, 1932, gage height, 29.2 ft, from rating curve extended above 40,000 ft³/s; minimum, 0.3 ft³/s, Nov. 4, 5, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,500 ft³/s, Nov. 29, gage height, 16.40 ft; minimum, 121 ft³/s, Aug. 13, 14, gage height, 3.84 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	460	382	3650	616	1350	2710	595	1510	638	3970	602	157
2	497	388	8420	638	1520	2160	567	1440	466	5920	472	150
3	484	400	9900	654	2620	1880	442	1350	376	9220	497	147
4	448	2650	10000	678	6980	1890	406	1120	353	8670	567	150
5	442	17600	9620	678	9350	2030	370	818	348	7420	560	224
6	436	8550	7720	670	9050	2150	359	764	337	5080	511	348
7	430	6220	6150	694	10700	2460	424	630	298	2030	504	348
8	430	8350	4910	728	10600	2190	623	1080	466	881	525	271
9	331	8550	4400	609	7920	1890	567	1180	719	737	546	199
10	175	8320	3090	670	5600	1700	532	1080	1370	908	359	164
11	134	8230	2320	504	3540	4380	539	755	971	962	203	143
12	211	8200	3720	472	2470	8270	525	702	694	1620	150	143
13	242	8050	8250	490	2160	8170	497	908	1200	1390	127	203
14	293	8020	11400	376	1630	7070	478	1020	1590	1040	140	326
15	309	4110	8300	442	1380	9770	472	953	1020	809	143	287
16	326	1560	7000	376	1270	10200	616	791	728	791	150	271
17	309	1360	6260	478	5220	9000	532	630	602	646	255	293
18	309	1320	5000	539	14300	7650	581	567	478	686	315	315
19	337	1270	3470	567	9650	5650	773	782	442	702	320	315
20	348	1230	2200	1040	9820	4010	818	2470	331	484	282	388
21	430	1620	1200	2120	9270	2200	836	5650	287	472	168	418
22	630	3570	926	3470	8670	1380	1080	4100	287	1180	134	298
23	518	8750	917	6500	7150	1260	2580	2760	271	1450	143	255
24	388	6000	926	6570	7550	1090	3370	2010	293	980	304	251
25	315	4830	818	6820	6250	926	3100	1440	298	567	293	773
26	287	4530	728	5850	4360	881	3090	1140	532	546	237	917
27	251	8700	678	5300	3570	845	3100	953	782	1410	191	935
28	331	16700	702	3380	3290	702	2260	818	518	998	175	5080
29	394	19600	678	2150	---	654	1770	719	418	710	195	3320
30	309	5000	638	1820	---	623	1610	670	3040	623	203	2100
31	304	---	588	1570	---	609	---	694	---	638	183	---
TOTAL	11108	184060	134579	57469	167240	106400	33512	41504	20153	63540	9454	19189
MEAN	358	6135	4341	1854	5973	3432	1117	1339	672	2050	305	640
MAX	630	19600	11400	6820	14300	10200	3370	5650	3040	9220	602	5080
MIN	134	382	588	376	1270	609	359	567	271	472	127	143

CAL YR 1985 TOTAL 841470 MEAN 2305 MAX 19600 MIN 115 CFSM 2.01 IN 27.34
WTR YR 1986 TOTAL 848208 MEAN 2324 MAX 19600 MIN 127 CFSM 2.03 IN 27.56

KANAWHA RIVER BASIN

03197000 ELK RIVER AT QUEEN SHOALS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961-75, 1979-81, February 1985 to September 1986 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1985 to September 1986.

WATER TEMPERATURE: November 1960 to April 1975, February 1985 to September 1986.

TURBIDITY: February 1985 to September 1986.

SUSPENDED-SEDIMENT DISCHARGE: February 1985 to September 1986.

REMARKS.--Sediment samples were taken once daily by an observer. Specific conductance and turbidity were taken in the lab from the sediment bottles. Lab analyses performed by West Virginia Department of Natural Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 214 microsiemens, Sept. 2, 1986; minimum daily, 51 microsiemens, Dec. 6, 1985.

WATER TEMPERATURE: Maximum daily, 29.0°C on several days in 1963, 1964, 1968, 1986; minimum daily, 0.0°C, on many days during winter periods.

TURBIDITY: Maximum daily, 160 NTU, Nov. 8, 1985; minimum daily, 0.7 NTU, May 2, June 26, Sept. 24, 28, 29, 1985.

SEDIMENT CONCENTRATION: Maximum daily mean, 368 mg/L Feb. 18, 1986; minimum daily mean, 0 mg/L on several days each year.

SEDIMENT LOAD: Maximum daily, 15,100 tons, Feb. 18, 1986; minimum daily, 0 ton on several days each year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 214 microsiemens, Sept. 2; minimum daily, 51 microsiemens, Dec. 6.

WATER TEMPERATURE: Maximum daily, 29.0°C, July 18, 20, 22; minimum daily, 0.0°C, Dec. 30.

TURBIDITY: Maximum daily, 160 NTU, Nov. 8; minimum daily, 1.0 NTU, several days during the year.

SEDIMENT CONCENTRATION: Maximum daily mean, 368 mg/L, Feb. 18; minimum daily mean, 0 mg/L on several days during the year.

SEDIMENT LOAD: Maximum daily, 15,100 tons, Feb. 18; minimum daily, 0 ton on several days during the year.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	118	84	115	104	105	82	86	109	75	119	106
2	83	130	73	116	104	106	82	79	109	72	122	214
3	85	146	60	118	106	104	86	78	107	73	114	99
4	76	88	52	115	111	105	78	79	110	72	120	102
5	79	56	52	113	107	105	86	90	107	69	110	103
6	73	69	51	116	99	106	88	88	110	67	108	105
7	81	157	60	120	94	106	88	81	141	65	110	113
8	80	62	54	114	92	107	91	84	115	67	109	113
9	81	58	58	118	89	107	100	84	117	69	107	115
10	78	59	68	127	90	110	89	84	114	69	110	115
11	77	148	62	120	94	108	95	87	117	101	112	114
12	77	64	65	116	96	100	97	85	113	103	109	112
13	77	142	62	121	102	96	102	83	107	112	110	138
14	74	70	63	120	103	98	104	85	109	109	110	114
15	74	62	96	121	108	93	99	81	104	117	109	116
16	87	67	94	122	105	90	102	107	103	118	111	117
17	82	77	93	123	107	91	99	78	101	115	114	117
18	83	80	98	124	96	94	95	81	91	111	120	111
19	79	93	96	122	117	92	91	86	73	117	125	109
20	78	79	102	127	94	92	89	79	74	112	119	111
21	83	83	107	100	99	92	88	72	87	114	122	108
22	84	76	101	106	94	98	83	67	75	115	118	93
23	92	73	108	84	93	103	75	68	85	108	119	94
24	80	75	119	80	94	102	84	88	82	115	127	93
25	90	74	108	70	94	102	80	84	86	97	129	88
26	90	73	115	72	98	110	71	69	88	105	133	96
27	97	60	110	72	99	103	67	70	90	99	127	100
28	113	58	109	71	101	111	79	72	87	107	127	75
29	95	57	118	72	---	110	73	107	87	109	132	80
30	135	79	117	73	---	113	73	105	84	114	138	84
31	171	---	116	98	---	116	---	104	---	116	139	---
MEAN	87	84	86	106	100	102	87	84	99	97	119	109
WTR YR 1986	MEAN	97	MAX	214	MIN	51						

03197000 ELK RIVER AT QUEEN SHOALS, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	---	12.5	1.0	2.5	4.0	15.0	18.0	23.0	18.5	25.0	21.5
2	17.0	---	10.5	1.0	4.5	4.5	17.5	17.0	22.0	18.5	26.0	22.0
3	17.0	15.5	8.0	1.0	4.0	4.5	16.0	16.0	21.5	19.0	26.5	22.0
4	17.5	15.0	9.0	2.0	6.0	5.0	17.5	15.0	21.0	19.0	26.0	22.0
5	17.0	13.5	10.5	2.0	7.0	4.5	17.0	16.5	22.5	19.5	25.0	22.5
6	16.5	13.0	10.0	2.0	6.0	5.0	18.5	18.0	25.0	20.5	27.0	23.0
7	15.0	12.5	9.0	1.5	6.5	3.5	19.0	18.5	24.0	22.5	27.0	22.0
8	14.5	13.0	9.0	1.5	5.5	4.0	18.5	19.5	25.0	23.0	26.0	21.0
9	17.0	13.0	8.5	1.0	6.0	5.0	18.0	21.0	25.0	24.0	26.0	20.5
10	18.0	13.0	9.0	2.0	5.0	6.0	14.0	19.0	25.0	24.0	26.5	21.0
11	18.5	13.5	8.5	2.0	3.0	6.5	13.5	21.0	25.0	24.5	25.5	22.0
12	19.0	13.0	9.0	3.0	2.0	7.0	12.5	20.5	25.0	26.0	24.5	23.5
13	19.5	13.5	8.5	1.0	1.0	6.5	14.0	21.0	24.0	26.0	26.0	22.0
14	19.0	13.5	7.5	1.0	2.0	8.0	14.5	19.0	23.0	25.0	25.5	21.0
15	19.5	14.0	6.5	1.0	1.5	8.0	16.0	19.5	25.5	25.5	26.0	22.0
16	19.0	14.5	6.5	2.0	2.0	8.0	14.0	20.5	24.0	26.0	27.0	21.0
17	19.0	13.0	7.0	1.5	3.0	8.0	13.0	24.0	23.5	27.0	26.5	18.5
18	19.0	13.0	5.5	2.0	5.0	8.5	13.0	23.0	22.0	29.0	26.0	20.0
19	19.0	13.0	3.0	2.0	6.5	10.0	13.0	22.0	23.5	27.5	26.0	21.0
20	19.5	13.5	3.5	1.0	6.0	9.0	15.0	20.0	23.5	29.0	26.0	21.0
21	18.5	12.0	3.0	2.0	8.0	6.0	15.0	16.0	24.0	28.0	26.0	21.0
22	18.0	11.5	3.5	2.0	5.5	8.0	13.0	13.0	25.5	29.0	26.0	21.0
23	18.5	11.0	3.5	3.5	5.5	8.5	12.0	12.5	25.0	28.0	25.5	22.0
24	18.0	11.0	3.0	3.0	5.5	10.0	11.0	11.0	26.0	28.0	26.0	23.0
25	18.0	11.0	1.5	3.0	5.0	9.0	12.0	16.5	25.0	26.5	24.0	23.0
26	17.0	12.0	1.0	3.0	4.5	12.0	14.5	17.0	24.5	28.0	24.0	23.5
27	16.0	12.0	2.0	2.0	5.0	11.0	15.0	18.0	24.5	27.5	25.0	23.5
28	16.0	12.0	1.0	1.5	5.0	13.0	18.0	19.0	25.5	26.5	22.0	23.0
29	14.0	13.5	.0	2.0	---	11.5	18.0	19.0	26.0	26.5	21.5	20.5
30	16.0	13.0	---	1.0	---	14.0	19.0	21.0	26.0	26.0	22.5	21.5
31	14.5	---	---	1.0	---	16.5	---	21.0	---	25.5	---	---
MEAN	17.5	13.0	6.0	2.0	4.5	8.0	15.0	18.5	24.0	25.0	25.5	21.5
WTR YR 1986	MEAN	15.0		MAX	29.0	MIN	.0					

TURBIDITY (NTU), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	1.8	10	2.7	3.0	9.0	2.5	1.0	5.0	5.0	9.0	4.0
2	2.8	3.5	25	2.9	3.0	9.0	3.0	1.0	4.0	55	8.0	6.0
3	2.9	2.3	25	4.0	3.5	6.0	2.5	1.5	3.0	85	4.0	3.5
4	2.2	25	30	2.0	30	6.6	2.5	1.2	3.0	10	5.0	2.0
5	2.1	85	30	3.5	45	6.5	3.5	1.0	3.0	9.0	4.0	2.5
6	2.4	50	35	3.5	10	5.0	2.5	1.0	3.0	7.5	4.0	2.5
7	2.3	25	25	2.0	30	7.0	2.0	1.0	3.0	20	4.0	3.5
8	1.9	160	25	2.8	30	5.7	2.5	1.0	4.0	10	4.0	2.5
9	2.0	130	15	2.5	20	10	3.5	6.0	4.0	7.5	6.0	2.5
10	1.4	120	8.4	1.4	15	5.5	2.5	20	4.0	8.0	4.0	3.0
11	1.5	90	8.7	2.5	10	6.0	2.4	6.0	4.0	5.0	5.0	4.0
12	2.3	70	10	3.0	10	45	1.5	4.0	3.0	7.0	5.0	3.0
13	1.6	45	40	2.0	10	10	2.5	1.5	3.0	10	4.0	3.5
14	4.0	35	35	3.4	7.5	15	2.5	1.0	4.0	8.0	4.0	3.0
15	2.1	30	10	1.0	7.5	35	2.0	7.0	3.0	15	3.0	3.0
16	2.8	15	10	1.5	4.5	20	1.5	3.0	6.0	7.0	4.0	2.5
17	2.4	9.5	15	2.0	10	15	2.5	1.0	4.0	7.0	5.0	2.0
18	2.6	7.2	8.0	1.3	120	45	1.5	2.0	1.5	4.0	3.0	3.0
19	2.0	7.0	3.5	2.0	45	40	2.0	3.0	2.0	5.0	5.0	2.5
20	2.5	6.0	8.5	2.3	20	15	2.0	15	2.0	7.0	4.0	2.5
21	4.3	6.0	4.0	15	40	15	1.5	30	2.5	5.0	3.0	3.0
22	3.5	10	2.0	9.5	25	15	1.0	7.0	1.0	4.0	3.0	2.0
23	5.2	45	4.5	20	25	10	2.5	4.5	2.0	3.0	5.0	2.0
24	3.5	15	3.0	10	15	7.5	5.5	2.0	2.0	5.0	9.0	2.0
25	3.0	6.0	3.6	10	10	7.5	4.0	3.0	2.5	4.0	4.0	3.0
26	2.3	10	4.4	10	10	4.8	3.0	3.0	2.5	4.0	5.0	2.0
27	2.5	55	1.3	8.0	10	8.5	3.5	2.5	2.0	4.0	7.0	2.5
28	2.0	65	2.0	9.5	9.0	5.5	30	2.0	2.0	3.0	4.0	100
29	2.0	70	2.0	6.0	---	6.0	8.5	5.0	1.5	40	6.0	40
30	1.8	25	3.0	6.5	---	5.3	8.0	7.0	2.5	25	5.0	9.0
31	1.8	---	2.0	8.0	---	5.0	---	4.0	---	30	5.0	---
MEAN	2.7	40	13	5.2	21	13	3.8	4.8	3.0	14	4.8	7.6
WTR YR 1986	MEAN	11		MAX	160	MIN	1.0					

KANAWHA RIVER BASIN

03197000 ELK RIVER AT QUEEN SHOALS, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)	
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)	
OCTOBER												
1	5	6.2	1	1.0	27	266	2	3.3	4	15	8	59
2	3	4.0	3	3.1	64	1450	1	1.7	4	16	7	41
3	3	3.9	2	2.2	65	1740	2	3.5	10	71	4	20
4	1	1.2	25	179	55	1490	1	1.8	60	1130	3	15
5	3	3.6	107	5180	35	909	1	1.8	91	2300	7	38
6	2	2.4	75	1730	40	834	2	3.6	42	1030	4	23
7	3	3.5	43	722	35	581	3	5.6	55	1590	4	27
8	3	3.5	255	5750	23	305	1	2.0	62	1770	6	35
9	3	2.7	180	4160	15	178	2	3.3	29	620	11	56
10	2	.95	140	3140	10	83	0	.00	23	348	3	14
11	3	1.1	105	2330	7	44	1	1.4	16	153	22	260
12	15	8.5	67	1480	14	141	2	2.5	11	73	65	1450
13	4	2.6	67	1460	121	3230	1	1.3	25	146	25	551
14	5	4.0	60	1300	179	5820	2	2.0	6	26	26	496
15	3	2.5	41	455	25	560	1	1.2	4	15	72	1900
16	2	1.8	43	181	13	246	2	2.0	7	24	95	2620
17	4	3.3	15	55	18	304	20	26	76	1960	35	850
18	3	2.5	7	25	11	148	3	4.4	368	15100	37	764
19	2	1.8	4	14	10	94	1	1.5	113	2940	52	793
20	4	3.8	6	20	6	36	2	5.6	48	1270	52	563
21	3	3.5	7	31	7	23	1	5.7	65	1630	22	131
22	7	12	27	260	5	13	14	131	37	866	24	89
23	5	7.0	80	1890	5	12	38	667	36	695	12	41
24	3	3.1	30	486	3	7.5	26	461	25	510	14	41
25	3	2.6	10	130	7	15	20	368	18	304	10	25
26	2	1.5	20	245	10	20	15	237	10	118	5	12
27	3	2.0	84	1970	4	7.3	11	157	15	145	7	16
28	2	1.8	150	6760	2	3.8	13	119	17	151	5	9.5
29	2	2.1	164	9160	1	1.8	7	41	---	---	5	8.8
30	2	1.7	50	675	1	1.7	7	34	---	---	4	6.7
31	2	1.6	---	---	1	1.6	13	55	---	---	5	8.2
TOTAL	---	102.75	---	49794.3	---	18565.7	---	2350.20	---	35016	---	10963.2
APRIL												
1	6	9.6	9	37	4	6.9	24	257	7	11	7	3.0
2	6	9.2	6	23	4	5.0	213	4070	5	6.4	6	2.4
3	5	6.0	11	40	2	2.0	180	4480	1	1.3	7	2.8
4	8	8.8	6	18	2	1.9	50	1170	1	1.5	5	2.0
5	7	7.0	7	15	2	1.9	40	801	1	1.5	6	3.6
6	6	5.8	6	12	5	4.5	40	549	3	4.1	8	7.5
7	6	6.9	5	8.5	4	3.2	26	143	2	2.7	6	5.6
8	6	10	25	73	5	6.3	11	26	2	2.8	3	2.2
9	8	12	26	83	7	14	7	14	3	4.4	5	2.7
10	3	4.3	32	93	15	55	11	27	3	2.9	2	.89
11	5	7.3	12	24	2	5.2	14	36	2	1.1	5	1.9
12	6	8.5	5	9.5	3	5.6	12	52	3	1.2	4	1.5
13	5	6.7	7	17	8	26	11	41	2	.69	6	3.3
14	8	10	8	22	6	26	14	39	3	1.1	7	6.2
15	5	6.4	10	26	3	8.3	12	26	1	.39	6	4.6
16	3	5.0	6	13	4	7.9	7	15	2	.81	6	4.4
17	4	5.7	4	6.8	1	1.6	3	5.2	2	1.4	5	4.0
18	3	4.7	5	7.7	1	1.3	3	5.6	1	.85	7	6.0
19	2	4.2	7	15	1	1.2	1	1.9	2	1.7	7	6.0
20	1	2.2	32	213	3	2.7	2	2.6	4	3.0	15	16
21	1	2.3	78	1190	2	1.5	1	1.3	3	1.4	7	7.9
22	1	2.9	30	332	3	2.3	2	6.4	4	1.4	5	4.0
23	5	35	14	104	0	.00	2	7.8	7	2.7	5	3.4
24	13	118	5	27	0	.00	1	2.6	19	16	5	3.4
25	6	50	5	19	0	.00	1	1.5	6	4.7	6	13
26	6	50	6	18	1	1.4	1	1.5	5	3.2	3	7.4
27	10	84	2	5.1	0	.00	7	27	5	2.6	14	35
28	65	397	4	8.8	0	.00	20	54	4	1.9	244	3700
29	70	335	3	5.8	0	.00	40	77	6	3.2	133	1190
30	37	161	7	13	15	123	25	42	4	2.2	26	147
31	---	---	3	5.6	---	---	24	41	6	3.0	---	---
TOTAL	---	1375.5	---	2484.8	---	314.70	---	12023.4	---	93.14	---	5197.69
TOTAL LOAD FOR YEAR: 138281.38 TONS.												

KANAWHA RIVER BASIN

03197680 ELK RIVER AT BLUE CREEK, WV

LOCATION.--Lat 38°26'57", long 81°27'22", Kanawha County, Hydrologic Unit 05050007, on right bank 20 ft downstream from highway bridge at Blue Creek, 0.1 mi upstream from Blue Creek, 1.7 mi east of Elkview, and at mile 14.4.

DRAINAGE AREA.--1,336 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1985 to September 1986 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 578.22 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: July 1-16. Water-discharge records good except for estimated daily discharges which are fair. Flow regulated since 1960 by Sutton Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,700 ft³/s, Nov. 29, 1985, gage height, 24.46 ft, from rating curve extended above 23,000 ft³/s; minimum, 133 ft³/s, Sept. 5, 6, 1985, gage height, 3.81 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,700 ft³/s, Nov. 29, gage height, 24.46 ft; minimum discharge, 139 ft³/s, Aug. 14; minimum gage height, 3.82 ft, Oct. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	460	376	3960	641	1520	3160	639	1550	684	4220	601	179
2	504	382	7760	665	1710	2530	618	1480	543	6000	485	168
3	504	400	9210	686	2640	2180	503	1380	405	9400	446	167
4	460	3010	9530	715	7490	2130	445	1200	373	9000	546	178
5	448	19700	9070	724	9650	2260	417	854	359	7000	535	237
6	436	11900	7920	714	9250	2410	406	805	360	5200	492	333
7	424	6530	6360	708	11200	2780	515	673	341	2200	473	355
8	424	7560	5120	731	11400	2490	688	1170	561	932	530	290
9	376	8090	4490	654	8490	2220	655	1360	736	764	533	224
10	230	7780	3350	741	5990	1960	590	1200	1490	812	449	189
11	163	7620	2480	571	4140	4230	584	832	1180	995	250	167
12	181	7520	3900	491	2680	7830	569	747	771	1630	192	188
13	234	7400	9840	493	2280	8030	540	1090	997	1420	161	195
14	266	7450	13000	450	1900	7150	514	1160	1780	1200	149	331
15	295	4510	8700	461	1600	10300	505	1110	1160	878	163	293
16	315	1750	6990	415	1490	10800	617	930	807	914	151	271
17	315	1450	6160	437	5750	9160	629	756	681	673	231	273
18	300	1400	5110	525	19100	7650	659	647	525	647	288	302
19	315	1330	3540	596	11100	5960	797	800	454	747	317	306
20	330	1280	2390	916	10100	4200	874	2690	382	508	298	328
21	448	1540	1390	2170	9400	2620	919	5360	301	476	214	441
22	732	4060	1040	3330	9000	1510	1180	4420	298	976	163	304
23	665	9040	1010	6640	7680	1360	2380	2870	284	1540	160	265
24	466	6120	1040	6580	7450	1210	3320	2230	296	1080	298	260
25	370	4920	933	6480	7190	1010	3040	1580	288	601	340	641
26	335	4420	806	6390	5040	945	2960	1280	421	523	257	967
27	300	10100	762	5620	4130	921	3030	1050	742	1260	221	1130
28	305	20700	756	3940	3790	790	2370	891	557	1150	206	5020
29	406	23200	752	2390	---	714	1840	810	447	736	209	3550
30	360	7480	695	2030	---	678	1670	716	2090	618	215	2380
31	290	---	652	1700	---	659	---	734	---	616	206	---
TOTAL	11657	199018	138716	59604	183160	111847	34473	44375	20313	64716	9779	19932
MEAN	376	6634	4475	1923	6541	3608	1149	1431	677	2088	315	664
MAX	732	23200	13000	6640	19100	10800	3320	5360	2090	9400	601	5020
MIN	163	376	652	415	1490	659	406	647	284	476	149	167
CFSM	.28	4.97	3.35	1.44	4.90	2.70	.86	1.07	.51	1.56	.24	.50
IN.	.32	5.54	3.86	1.66	5.10	3.11	.96	1.24	.57	1.80	.27	.55

WTR YR 1986 TOTAL 897590 MEAN 2459 MAX 23200 MIN 149 CFSM 1.84 IN 24.99

KANAWHA RIVER BASIN

03197680 ELK RIVER AT BLUE CREEK, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1985 to September 1986 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1985 to September 1986.

WATER TEMPERATURE: February 1985 to September 1986.

TURBIDITY: February 1985 to September 1986.

SUSPENDED-SEDIMENT DISCHARGE: February 1985 to September 1986.

REMARKS.--Sediment samples were taken once daily by an observer. Specific conductance and turbidity were taken in the lab from the sediment bottles. Lab analyses performed by West Virginia Department of Natural Resources.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 192 microsiemens, Feb. 17, 1986; minimum daily, 51 microsiemens, May 25, 1985.

WATER TEMPERATURE: Maximum daily, 29.0°C, July 17-18, 1986; minimum daily, 0.0°C, several days in January 1986.

TURBIDITY: Maximum daily, 200 NTU, Feb. 17, 1986; minimum daily, 0.3 NTU, Aug. 18, 20, 1985.

SEDIMENT CONCENTRATION: Maximum daily mean, 540 mg/L, Feb. 18, 1986; minimum daily mean, 0 mg/L on many days in 1986.

SEDIMENT LOAD: Maximum daily, 28,600 tons, Feb. 18, 1986; minimum daily, 0 ton on many days in 1986.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 192 microsiemens, Feb. 17; minimum daily, 56 microsiemens, Dec. 18.

WATER TEMPERATURE: Maximum daily, 29.0°C, July 17-18; minimum daily, 0.0°C, several days in January.

TURBIDITY: Maximum daily, 200 NTU, Feb. 17; minimum daily, 1.5 NTU, Oct. 30, Nov. 3, Apr. 17, June 26.

SEDIMENT CONCENTRATION: Maximum daily mean, 540 mg/L, Feb. 18; minimum daily mean, 0 mg/L on many days during the year.

SEDIMENT LOAD: Maximum daily, 28,600 tons, Feb. 18; minimum daily, 0 ton on many days during the year.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	---	---	---	127	91	105	70	95	70	93	---
2	120	---	---	92	118	91	105	75	104	---	---	120
3	130	106	---	93	106	91	106	74	92	75	84	117
4	97	104	---	95	102	107	107	77	94	68	79	106
5	82	79	---	96	---	95	130	75	---	78	99	---
6	85	106	57	83	---	96	105	80	86	64	78	115
7	91	---	85	100	71	---	110	91	97	---	87	118
8	85	---	62	106	78	---	117	90	118	---	---	119
9	85	---	65	109	---	96	114	88	93	105	106	---
10	89	---	66	110	76	97	119	85	90	67	---	120
11	86	---	76	106	---	98	113	88	91	96	85	122
12	---	---	70	111	---	85	120	72	91	---	---	---
13	84	100	68	---	89	73	125	100	---	91	101	127
14	85	---	---	113	---	83	117	99	---	82	105	120
15	85	---	73	114	---	73	123	97	85	89	---	123
16	99	---	64	112	---	67	127	---	78	87	103	122
17	96	96	66	---	192	67	126	98	85	96	102	121
18	---	---	56	123	82	73	190	93	83	90	94	119
19	---	---	59	---	82	80	---	100	95	---	97	---
20	---	---	---	---	69	77	120	102	---	---	91	121
21	---	---	76	114	82	85	111	79	77	86	---	126
22	100	---	---	112	78	122	121	73	---	77	99	131
23	92	---	---	133	---	84	85	70	94	---	115	---
24	98	---	---	91	82	102	80	71	83	84	110	---
25	100	---	---	93	93	107	68	95	88	86	118	84
26	---	---	62	---	87	107	70	76	93	70	---	86
27	103	85	82	---	87	93	72	81	94	68	113	---
28	100	---	71	---	88	110	80	81	---	85	109	---
29	103	75	88	91	---	112	65	79	---	85	112	71
30	104	---	---	95	---	97	75	89	---	---	113	87
31	108	---	---	---	---	90	---	92	---	97	---	---
MEAN	98	94	69	104	94	91	107	85	91	82	100	113
WTR YR 1986	MEAN	94	MAX	192	MIN	56						

03197680 ELK RIVER AT BLUE CREEK, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	---	---	---	3.0	3.0	10.0	19.0	21.0	26.0	25.0	---
2	15.0	---	---	2.0	3.0	3.0	10.0	20.0	20.0	---	---	25.0
3	16.0	14.0	---	2.0	4.0	4.0	9.0	20.0	21.0	27.0	26.0	25.0
4	16.0	13.0	---	1.0	6.0	8.0	9.0	20.0	22.0	27.0	26.0	25.0
5	16.0	12.0	---	1.0	---	6.0	10.0	19.0	---	27.0	27.0	---
6	14.0	12.0	---	1.0	---	5.0	10.0	18.0	26.0	28.0	27.0	24.0
7	15.0	---	7.0	.0	7.0	---	11.0	18.0	26.0	28.0	27.0	24.0
8	16.0	---	7.0	.0	6.0	---	14.0	19.0	25.0	28.0	---	23.0
9	17.0	---	7.0	1.0	---	10.0	14.0	19.0	26.0	28.0	27.0	---
10	18.0	---	8.0	.0	4.0	9.0	13.0	20.0	25.0	28.0	26.0	23.0
11	18.0	---	8.0	1.0	---	8.5	14.0	21.0	25.0	28.0	26.0	---
12	---	12.0	8.0	3.0	---	8.0	15.0	21.0	26.0	28.0	---	---
13	19.0	---	7.0	---	1.0	8.0	15.0	20.0	---	28.0	27.0	22.0
14	18.0	---	---	.0	---	9.0	15.0	---	---	28.0	28.0	22.0
15	18.0	---	6.0	.0	---	9.0	16.0	---	27.0	28.0	---	22.0
16	17.0	---	5.0	2.0	---	7.0	15.0	---	27.0	28.0	27.0	22.0
17	17.0	12.0	6.0	---	4.0	8.0	13.0	---	27.0	29.0	27.0	22.0
18	---	---	4.0	4.0	6.0	8.0	15.0	---	27.0	29.0	27.0	22.0
19	---	---	4.0	---	8.0	11.0	---	---	27.0	---	27.0	---
20	---	---	---	---	---	7.0	15.0	---	---	---	26.0	22.0
21	---	---	3.0	2.0	6.0	8.0	15.0	16.0	27.0	28.0	---	22.0
22	17.0	---	4.0	2.0	5.0	6.0	13.0	15.0	27.0	28.0	26.0	23.0
23	17.0	---	---	3.0	---	7.0	13.0	15.0	27.0	---	26.0	---
24	17.0	---	---	3.0	4.0	9.0	14.0	16.0	26.0	28.0	26.0	23.0
25	18.0	---	3.0	2.0	4.0	10.0	16.0	17.0	26.0	28.0	26.0	23.0
26	---	---	3.0	---	3.0	10.0	16.0	17.0	26.0	28.0	---	23.0
27	17.0	12.0	3.0	---	4.0	9.0	17.0	17.0	26.0	28.0	25.0	---
28	16.0	---	3.0	---	4.0	9.0	19.0	19.0	---	28.0	25.0	---
29	14.0	12.0	3.0	.0	---	9.0	18.0	20.0	---	27.0	26.0	22.0
30	15.0	---	---	.0	---	11.0	19.0	20.0	---	---	26.0	23.0
31	14.0	---	---	---	---	10.0	---	20.0	---	26.0	---	---
MEAN	16.5	12.5	5.0	1.5	4.5	8.0	14.0	18.5	25.5	28.0	26.5	23.0
WTR YR 1986	MEAN	15.5	MAX	29.0	MIN	.0						

TURBIDITY (NTU), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	---	---	---	4.0	8.5	4.0	3.2	3.5	10	15	---
2	10	---	---	3.4	2.0	7.5	4.5	2.8	10	---	---	4.0
3	8.7	1.5	---	3.6	4.5	7.0	3.5	2.6	4.0	85	7.0	4.5
4	3.0	90	---	2.9	110	6.5	3.4	3.3	3.0	7.5	5.0	3.5
5	2.3	80	---	3.8	---	6.0	3.5	2.9	---	10	4.0	---
6	2.8	40	30	3.4	---	9.0	3.9	2.8	2.5	30	10	3.5
7	1.9	---	25	7.5	50	---	5.0	20	3.5	---	4.0	4.0
8	2.2	---	20	6.0	35	---	4.5	25	50	---	---	4.0
9	2.3	---	10	4.0	---	8.5	5.0	25	3.0	10	4.5	---
10	2.7	---	10	2.5	20	7.0	4.0	45	5.5	15	---	3.0
11	1.9	---	10	2.8	---	30	3.5	15	2.0	10	2.5	5.5
12	---	---	40	2.5	---	35	2.0	5.9	2.0	---	---	---
13	2.1	40	75	---	10	10	4.0	6.0	---	15	3.0	3.5
14	2.2	---	---	2.5	---	15	3.3	4.6	---	15	4.0	3.5
15	2.1	---	20	2.0	---	40	2.0	6.0	4.0	9.0	---	4.0
16	2.1	---	20	2.8	---	25	3.5	---	2.0	5.0	8.0	3.0
17	2.3	10	20	---	200	15	1.5	3.5	6.0	10	10	3.5
18	---	---	25	1.6	120	40	3.5	3.0	3.0	6.0	8.0	3.0
19	---	---	9.4	---	45	40	---	2.0	2.5	---	7.5	---
20	---	---	---	---	10	20	2.0	15	---	---	10	3.0
21	---	---	8.8	5.7	35	20	2.9	35	2.0	6.0	---	3.0
22	2.7	---	5.1	25	35	9.0	3.4	15	2.5	4.0	10	4.0
23	1.9	---	---	30	---	15	10	7.0	3.5	---	15	---
24	2.2	---	---	10	15	9.0	10	4.0	2.0	3.0	10	---
25	2.1	---	3.0	15	20	9.0	9.3	3.5	3.0	6.0	6.0	20
26	---	---	3.5	---	15	6.5	6.7	15	1.5	5.0	---	30
27	3.1	140	1.8	---	10	7.0	6.9	5.5	3.0	6.0	3.0	---
28	2.9	---	4.9	---	10	4.0	2.9	3.0	---	4.0	3.0	---
29	3.1	70	4.1	4.7	---	6.0	4.5	4.5	---	2.0	4.0	20
30	1.5	---	---	3.5	---	4.5	3.3	3.0	---	---	6.0	10
31	1.8	---	---	---	---	3.5	---	2.8	---	2.0	---	---
MEAN	3.2	60	17	6.6	40	15	4.4	9.7	5.4	12	6.9	6.8
WTR YR 1986	MEAN	12	MAX	200	MIN	1.5						

03197680 ELK RIVER AT BLUE CREEK, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)	
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	33	41	2	2.0	30	321	1	1.7	3	12	6	51
2	9	12	5	5.2	60	1260	1	1.8	0	.00	4	27
3	2	2.7	2	2.2	65	1620	0	.00	15	107	4	24
4	2	2.5	49	806	55	1420	0	.00	171	3650	5	29
5	3	3.6	319	17500	35	857	1	2.0	75	1950	5	31
6	1	1.2	145	4660	45	962	0	.00	55	1370	4	26
7	0	.00	50	882	33	567	3	5.7	95	2900	4	30
8	1	1.1	238	5080	25	346	9	18	48	1480	6	40
9	1	1.0	188	4110	13	158	2	3.5	33	756	5	30
10	0	.00	145	3050	12	109	1	2.0	23	372	5	26
11	1	.44	110	2260	14	94	0	.00	18	201	60	685
12	0	.00	70	1420	67	706	0	.00	12	87	85	1800
13	0	.00	70	1400	198	5770	0	.00	8	49	47	1020
14	0	.00	60	1210	165	5790	0	.00	2	10	33	637
15	0	.00	43	524	85	2000	0	.00	4	17	110	3060
16	0	.00	45	213	55	1040	2	2.2	6	24	62	1810
17	0	.00	16	63	37	615	17	20	275	8260	87	2150
18	0	.00	8	30	31	428	2	2.8	540	28600	57	1180
19	1	.85	3	11	9	86	0	.00	120	3600	100	1610
20	2	1.8	6	21	3	19	3	7.4	50	1360	47	533
21	7	8.5	5	21	3	11	6	35	41	1040	34	241
22	5	9.9	23	252	6	17	35	315	45	1090	10	41
23	4	7.2	67	1640	4	11	62	1110	35	726	11	40
24	4	5.0	30	496	2	5.6	67	1190	18	362	13	42
25	1	1.0	11	146	0	.00	48	840	27	524	8	22
26	0	.00	37	442	0	.00	25	431	18	245	8	20
27	0	.00	265	7710	0	.00	15	228	10	112	7	17
28	0	.00	180	10100	0	.00	9	96	9	92	8	17
29	0	.00	212	13800	1	2.0	2	13	---	---	7	13
30	0	.00	50	1010	1	1.9	1	5.5	---	---	3	5.5
31	2	1.6	---	---	1	1.8	12	55	---	---	3	5.3
TOTAL	---	101.39	---	78866.4	---	24218.30	---	4385.60	---	58996.00	---	15262.8

	APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4	6.9	1	4.2	25	46	41	467	16	26	7	3.4	
2	4	6.7	1	4.0	25	37	283	3780	10	13	10	4.5	
3	2	2.7	3	11	12	13	218	5530	4	4.8	12	5.4	
4	0	.00	2	6.5	6	6.0	83	2020	1	1.5	10	4.8	
5	0	.00	1	2.3	3	2.9	25	472	1	1.4	8	5.1	
6	0	.00	4	8.7	1	.97	36	505	6	8.0	9	8.1	
7	2	2.8	26	47	6	5.5	28	166	7	8.9	8	7.7	
8	2	3.7	55	174	40	61	13	33	7	10	9	7.0	
9	2	3.5	32	118	20	40	23	47	7	10	6	3.6	
10	2	3.2	30	97	12	48	16	35	4	4.8	3	1.5	
11	1	1.6	25	56	1	3.2	15	40	1	.68	2	.90	
12	0	.00	5	10	2	4.2	12	53	1	.52	4	2.0	
13	0	.00	31	91	4	11	11	42	1	.43	5	2.6	
14	0	.00	9	28	6	29	18	58	3	1.2	6	5.4	
15	1	1.4	5	15	8	25	20	47	5	2.2	8	6.3	
16	2	3.3	3	7.5	3	6.5	10	25	17	6.9	5	3.7	
17	1	1.7	2	4.1	12	22	9	16	21	13	5	3.7	
18	2	3.6	1	1.7	5	7.1	6	10	55	43	3	2.4	
19	1	2.2	4	8.6	3	3.7	5	10	25	21	3	2.5	
20	0	.00	40	291	2	2.1	3	4.1	55	44	5	4.4	
21	1	2.5	102	1480	1	.81	2	2.6	42	24	18	21	
22	3	9.6	50	597	1	.80	1	2.6	21	9.2	7	5.7	
23	28	180	15	116	2	1.5	2	8.3	15	6.5	6	4.3	
24	16	143	9	54	1	.80	2	5.8	10	8.0	10	7.0	
25	11	90	5	21	0	.00	3	4.9	7	6.4	50	87	
26	10	80	50	173	0	.00	4	5.6	6	4.2	65	170	
27	7	57	30	85	7	14	10	34	5	3.0	60	183	
28	2	13	4	9.6	2	3.0	7	22	5	2.8	263	3790	
29	1	5.0	5	11	1	1.2	28	56	10	5.6	108	1040	
30	2	9.0	5	9.7	11	62	26	43	11	6.4	33	212	
31	---	---	5	9.9	---	---	15	25	8	4.4	---	---	
TOTAL	---	632.40	---	3551.8	---	458.28	---	13569.9	---	301.83	---	5605.00	

TOTAL LOAD FOR YEAR: 205949.70 TONS.

KANAWHA RIVER BASIN

03197790 LITTLE SANDY CREEK NEAR ELKVIEW, WV

LOCATION.--Lat 38°27'21", long 81°30'01", Kanawha County, Hydrologic Unit 05050007, on left bank 20 ft downstream from private bridge at Wills, 0.2 mi downstream from Wills Creek, 1.3 mi west of Elkview, and at mile 6.3.

DRAINAGE AREA.--43.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1985 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 605 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 13-15, 28-30. Water-discharge records good except for periods with ice effect, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,940 ft³/s, Feb. 17, 1986, gage height, 14.54 ft; no flow July 31 to Aug. 7, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,940 ft³/s, Feb. 17, gage height, 14.54 ft; no flow July 31 to Aug. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	1.8	97	20	46	79	12	9.6	2.8	13	.00	.37
2	15	1.9	74	19	76	64	12	8.8	2.3	310	.00	.34
3	6.1	14	52	20	91	60	10	6.9	2.1	60	.00	.29
4	3.0	440	42	19	382	57	10	6.0	1.7	20	.00	2.4
5	1.5	750	50	19	223	54	9.3	5.5	1.5	9.8	.00	2.6
6	.93	260	122	18	162	81	11	5.1	1.7	5.5	.00	1.6
7	.66	92	91	16	472	90	24	5.1	6.1	3.6	.00	.79
8	.46	54	72	13	234	68	16	11	62	2.7	13	.48
9	.35	37	58	9.6	128	62	14	5.0	12	6.3	5.2	.25
10	.54	29	48	11	92	64	13	3.5	4.8	16	1.6	.17
11	.87	26	49	13	82	225	11	2.9	6.1	8.8	10	.09
12	.92	29	149	14	67	122	10	2.9	4.0	9.9	3.0	23
13	.99	48	536	13	60	92	9.0	12	6.9	7.3	1.2	5.7
14	1.4	55	256	12	123	219	8.4	16	3.1	8.0	.62	1.9
15	8.0	39	124	11	102	300	8.8	12	2.1	3.2	.31	1.1
16	3.7	33	84	10	71	167	8.5	5.1	1.7	2.2	.20	.67
17	2.0	31	64	11	904	105	13	3.5	20	1.7	.27	.43
18	1.4	26	47	15	685	78	11	2.9	5.3	1.4	2.0	.34
19	1.1	23	46	45	261	63	8.5	8.6	2.4	1.1	1.5	.36
20	4.4	21	36	65	134	47	8.1	48	1.7	.95	3.2	.73
21	66	19	31	61	128	36	15	20	1.8	1.7	2.7	.54
22	26	378	30	167	117	29	25	11	1.3	1.6	1.4	.70
23	14	162	31	157	89	27	21	7.3	.93	.85	4.8	1.2
24	13	80	28	96	120	24	17	6.2	.93	.53	27	8.7
25	16	55	27	89	136	21	16	4.4	.63	.36	3.8	13
26	8.5	59	26	147	102	19	20	4.0	.56	.21	1.6	7.3
27	4.8	874	24	112	120	19	17	10	.48	.10	1.3	93
28	3.1	998	23	95	102	16	14	8.5	.39	.05	2.6	46
29	2.3	461	20	70	---	15	12	6.4	.36	.02	1.7	13
30	1.9	158	19	55	---	14	10	4.9	.29	.01	.87	5.8
31	1.9	---	20	46	---	13	---	3.7	---	.00	.49	---
TOTAL	215.32	5254.7	2376	1468.6	5309	2330	394.6	266.8	157.97	496.88	90.36	232.85
MEAN	6.95	175	76.6	47.4	190	75.2	13.2	8.61	5.27	16.0	2.91	7.76
MAX	66	998	536	167	904	300	25	48	62	310	27	93
MIN	.35	1.8	19	9.6	46	13	8.1	2.9	.29	.00	.00	.09
CFSM	.16	4.01	1.76	1.09	4.36	1.73	.30	.20	.12	.37	.07	.18
IN.	.18	4.48	2.03	1.25	4.53	1.99	.34	.23	.13	.42	.08	.20

WTR YR 1986 TOTAL 18593.08 MEAN 50.9 MAX 998 MIN .00 CFSM 1.17 IN 15.86

KANAWHA RIVER BASIN
03197790 LITTLE SANDY CREEK NEAR ELKVIEW, WV--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1985 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
02...	1500	18	--	750	--	14.0	110	21	1.0
21...	0840	110	--	616	--	--	260	543	161
22...	1230	25	--	868	--	16.5	54	158	11
24...	1230	16	--	1270	--	17.5	31	45	1.9
NOV									
04...	1315	787	--	193	--	11.5	230	961	2040
05...	1240	791	--	142	--	12.0	120	310	662
05...	1730	697	--	134	--	13.0	78	242	455
06...	1355	205	--	187	--	12.5	51	375	208
13...	1430	66	--	546	--	16.0	180	270	48
27...	1530	1430	--	90	--	12.5	140	404	1560
29...	1425	360	--	119	--	11.5	310	183	178
DEC									
06...	1215	140	--	208	--	5.0	35	72	27
13...	1235	902	--	125	--	7.0	150	678	1650
JAN									
07...	0915	19	--	704	--	0.5	5.5	4	0.21
22...	1430	198	--	304	--	3.5	190	425	227
FEB									
05...	1405	279	--	226	--	11.5	130	405	305
07...	1135	491	--	144	--	8.0	100	278	369
18...	1155	638	--	129	--	6.5	90	305	525
18...	1415	607	--	141	--	8.0	90	253	415
MAR									
04...	1345	57	--	471	7.60	5.0	14	14	2.2
11...	1055	216	--	170	--	8.0	85	171	100
14...	1455	178	--	312	--	11.0	320	990	476
15...	1215	310	--	152	--	9.0	95	212	177
APR									
01...	1350	12	--	306	--	20.0	3.5	1	0.03
17...	0915	14	--	1640	--	8.5	3.0	2	0.08
MAY									
05...	1400	5.9	--	530	--	20.0	3.0	1	0.02
08...	1020	13	--	504	--	19.0	30	22	0.77
13...	1220	22	--	586	--	18.0	200	266	16
15...	0950	12	--	462	--	17.0	45	101	3.3
19...	1505	6.7	--	1000	--	23.0	6.0	10	0.18
20...	1320	56	--	332	--	17.0	85	102	15
29...	1050	8.2	--	380	--	22.0	6.0	3	0.07
JUN									
17...	0930	30	--	487	--	22.0	200	1210	98
27...	1200	0.40	430	415	7.50	22.0	4.5	5	0.01
JUL									
01...	1400	7.1	--	1000	--	22.0	75	178	3.4
03...	1125	55	--	330	--	21.0	20	41	6.1
11...	1355	11	--	1210	--	28.0	10	20	0.59
AUG									
01...	1145	<0.01	--	928	--	25.5	3.0	8	0.0
08...	0950	2.5	--	1440	--	22.0	120	127	0.86
11...	1455	11	--	499	--	25.0	70	96	2.9
20...	1335	3.8	--	979	--	24.0	55	62	0.64
27...	1505	2.1	--	1110	--	23.0	110	119	0.67
28...	1130	4.0	--	510	--	19.5	9.0	10	0.11
SEP									
04...	1245	2.8	--	1070	--	20.0	200	389	2.9
09...	1145	0.68	1280	1250	7.80	20.0	10	3	0.01
24...	1350	4.0	--	2130	--	22.0	70	87	0.94
25...	1320	10	--	699	--	24.5	50	57	1.5
29...	1310	12	--	742	--	24.0	9.0	14	0.45

KANAWHA RIVER BASIN

03198000 KANAWHA RIVER AT CHARLESTON, WV

LOCATION.--Lat 38°22'10", long 81°42'05", Kanawha County, Hydrologic Unit 05050008, on left bank at old lock 6, 1.0 mi upstream from Davis Creek, 1.5 mi downstream from Twomile Creek, 2.0 mi downstream from Patrick Street Bridge at Charleston, 3.5 mi downstream from Elk River, and at mile 54.3.

DRAINAGE AREA.--10,419 mi².

PERIOD OF RECORD.--June 1939 to current year. Monthly discharge only September 1939 to February 1940, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1943.

GAGE.--Water-stage recorder. Datum of gage is 548.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Auxiliary water-stage recorder 2.3 mi upstream from base gage at datum 547.00 ft, U.S. Army Corps of Engineers datum. Prior to Oct. 1, 1955, auxiliary gages at different sites and datum.

REMARKS.--Estimated daily discharges: Oct. 1-30, Nov. 3-4, 18-23, Mar. 20 to Apr. 25, May 5-11, 13, 18, 19, June 3-23, 25, 26, 28-30, July 11 to Aug. 23, 26-31, and Sept. 1, 2, 8-26, 28-30. Records fair except for estimated periods, which are poor. Since 1939, flow regulated by increasing number of reservoirs upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years, 14,960, 19.50 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 216,000 ft³/s, Aug. 15, 1940; maximum gage height, 39.72 ft, Mar. 7, 1955; minimum discharge, less than 1,030 ft³/s, during period Oct. 1-5, 1953; minimum gage height, 16.79 ft, Aug. 7, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 29, 1861, reached a stage of about 54.3 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 122,000 ft³/s, Nov. 6, gage height, 30.37 ft; minimum daily, 2,100 ft³/s, Oct. 9, 10; minimum gage height, 17.59 ft, July 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3100	3220	47800	6430	8540	18600	5580	7450	9880	10000	3530	3660
2	3030	5000	47300	6290	9330	14500	7130	8220	7060	55000	3260	3750
3	2880	15000	40200	7030	13600	11800	5860	7600	6290	44900	3430	5690
4	3040	40000	35200	6470	37700	10900	6210	6440	6070	37000	3380	11700
5	4400	81800	26800	7790	59200	12900	5540	5480	6290	30500	3400	12700
6	6200	101000	24100	6400	51800	12800	5420	4680	6890	21300	3300	9460
7	4200	69700	20800	5730	44600	14600	5460	4630	6940	9160	3070	10500
8	2540	52500	18100	6470	56600	12500	5070	5570	7400	5290	3600	6880
9	2100	35100	12900	5080	40700	11200	5360	6900	9850	5170	3110	5470
10	2100	41200	11700	5210	26400	10200	6330	7240	8700	7270	3190	6740
11	2230	26500	10900	4920	22900	18900	6500	7160	7940	9080	2990	5380
12	2420	24800	15300	5260	22400	31300	6100	5640	7280	9450	2640	4200
13	2610	26700	36400	5970	17600	35100	5500	5720	9060	9420	2520	4020
14	2460	28200	44400	4940	15500	28400	4590	11100	7890	8680	2440	5070
15	2360	17100	37400	5080	13700	60000	4390	13100	5730	6190	2460	3880
16	2600	8820	27000	4840	13200	91900	5170	11600	4950	5290	2640	2990
17	2820	10300	21800	4820	21200	67100	6140	11400	4310	4800	3350	2810
18	2800	8430	20300	4320	52100	45000	6560	9620	3970	4570	4410	2990
19	2760	7180	16600	5780	49700	37100	6900	9090	4020	4070	3620	2930
20	2830	7830	12600	11800	40900	25800	6830	13600	4250	3190	3370	3260
21	3280	9350	10600	14800	40800	19000	5760	32000	3810	3840	4290	4060
22	3580	13600	8950	27500	37900	16500	6120	39000	3470	5460	4540	3180
23	5250	30400	7250	28000	32600	12900	8320	24400	3410	4340	5640	2580
24	4470	28400	7070	26800	29600	9920	10500	18600	3420	3680	8580	2410
25	5720	21800	8410	22400	25900	8600	9900	12200	2670	3310	10500	3890
26	6010	15200	7350	20400	23000	10300	8920	10000	3990	3350	6990	3730
27	5300	38800	7950	18700	21000	10300	8470	9690	3870	4600	5570	4000
28	4730	68100	7700	14300	19300	9800	7440	9830	3410	5970	8960	10500
29	4780	80900	7840	11200	---	9480	7050	9920	3930	5340	8720	9320
30	3510	56200	6180	11300	---	6800	7460	14100	6650	5500	5400	7200
31	3500	---	5530	9430	---	5870	---	13200	---	4740	4430	---
TOTAL	109610	973130	612430	325460	847770	690070	196580	355180	173400	340460	137330	164950
MEAN	3536	32440	19760	10500	30280	22260	6553	11460	5780	10980	4430	5498
MAX	6200	101000	47800	28000	59200	91900	10500	39000	9880	55000	10500	12700
MIN	2100	3220	5530	4320	8540	5870	4390	4630	2670	3190	2440	2410

CAL YR 1985 TOTAL 5218390 MEAN 14300 MAX 101000 MIN 2100
WTR YR 1986 TOTAL 4926370 MEAN 13500 MAX 101000 MIN 2100

KANAWHA RIVER BASIN

03198500 BIG COAL RIVER AT ASHFORD, WV

LOCATION.--Lat $38^{\circ}10'47''$, long $81^{\circ}42'42''$, Boone County, Hydrologic Unit 05050009, on left bank at downstream side of highway bridge at Ashford, 300 ft upstream from Lick Creek, 1.0 mi downstream from Brush Creek, 1.8 mi upstream from Bull Creek, and at mile 30.2 upstream from Kanawha River.

DRAINAGE AREA.--391 mi².

PERIOD OF RECORD.--June 1908 to September 1916, May 1930 to current year. Published as Coal River at Brushton, June 1908 to September 1916 and as Coal River at Ashford, May 1930 to September 1960.

REVISED RECORDS.--WSP 1305: 1913-14(M). WSP 1335: 1912, 1916(M). WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 622.46 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 9, 1916, nonrecording gage at site 1.0 mi upstream at different datum. May 7, 1930, to Feb. 10, 1939, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Sept. 20-21. Records good except for period of estimated record, which is fair.

AVERAGE DISCHARGE.--64 years, 517 ft³/s, 17.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 35,800 ft³/s, Aug. 9, 1916, gage height, 36.3 ft, from floodmark, site and datum then in use, or 35.66 ft, from floodmark, present site and datum, from rating curve extended above 25,000 ft³/s; no flow Sept. 18-21, 24, Oct. 6-12, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 29	0100	*7,980	*13.21	Feb. 18	0330	5,700	10.65

Minimum daily discharge, 21 ft³/s, Oct. 11; minimum gage height, 1.49 ft, Oct. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	32	1070	182	366	763	286	357	328	541	63	109
2	48	35	762	182	503	702	271	325	282	1930	59	112
3	42	41	556	176	1020	662	259	297	248	1230	56	470
4	70	298	440	176	1970	614	251	273	217	619	54	906
5	51	1450	386	179	1790	574	236	230	211	347	50	1050
6	39	1490	449	169	1310	563	231	182	235	258	75	634
7	31	733	444	163	2280	575	226	187	233	195	63	396
8	26	400	418	117	2290	527	220	286	331	155	69	254
9	23	259	399	102	1520	514	216	368	370	152	62	204
10	22	192	370	128	1090	540	217	326	294	326	66	161
11	21	159	361	145	900	672	215	277	291	722	82	134
12	22	139	414	145	716	779	200	246	238	616	78	141
13	23	119	1760	154	602	771	191	337	205	665	64	124
14	26	112	2850	130	537	940	186	1580	178	777	53	101
15	30	101	1480	139	522	2510	177	1070	154	529	49	91
16	30	93	1010	114	485	2110	177	690	137	369	46	73
17	30	93	768	128	2150	1440	191	557	118	338	214	67
18	27	79	592	122	4800	1050	195	628	105	297	188	66
19	26	70	459	150	2460	857	182	611	93	239	121	66
20	26	65	389	236	1690	719	165	1910	89	196	333	78
21	40	61	356	290	1290	607	186	1830	92	227	298	86
22	54	200	307	404	1070	522	257	1110	83	181	156	99
23	54	514	307	299	1190	477	308	777	77	147	168	79
24	45	403	294	819	1190	436	316	603	72	122	776	120
25	56	281	278	683	1170	391	303	487	108	113	364	418
26	54	221	196	715	1020	365	327	418	85	102	211	266
27	41	1710	224	690	978	363	429	420	71	93	168	294
28	35	3310	224	502	876	350	474	464	71	91	254	586
29	31	5460	199	480	---	325	427	510	137	86	219	404
30	27	1870	179	455	---	309	384	449	120	73	157	274
31	25	---	166	383	---	300	---	377	---	66	121	---
TOTAL	1102	19990	18107	8757	37785	22327	7703	18182	5273	11802	4737	7863
MEAN	35.5	666	584	282	1349	720	257	587	176	381	153	262
MAX	70	5460	2850	819	4800	2510	474	1910	370	1930	776	1050
MIN	21	32	166	102	366	300	165	182	71	66	46	66
CFSM	.09	1.70	1.49	.72	3.45	1.84	.66	1.50	.45	.97	.39	.67
IN.	.10	1.90	1.72	.83	3.59	2.12	.73	1.73	.50	1.12	.45	.75

CAL YR 1985 TOTAL 188734 MEAN 517 MAX 6390 MIN 16 CFSM 1.32 IN 17.96
WTR YR 1986 TOTAL 163628 MEAN 448 MAX 5460 MIN 21 CFSM 1.15 IN 15.57

KANAWHA RIVER BASIN

03200500 COAL RIVER AT TORNADO, WV

LOCATION.--Lat 38°20'20", long 81°50'30", Kanawha County, Hydrologic Unit 05050009, on downstream side of highway bridge at Tornado, 0.2 mi upstream from Falls Creek, and at mile 11.5.

DRAINAGE AREA.--862 mi², includes that of Falls Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1908 to September 1911, October 1911 to June 1912 (gage heights only), November 1928 to September 1931, August 1961 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 570.46 ft above National Geodetic Vertical Datum of 1929. Aug. 1, 1961 to Jan. 9, 1973, nonrecording gage at same site and datum. Prior to Aug. 1, 1961, nonrecording gage at same site at different datum.

REMARKS.--No estimated daily discharges. Water-discharge records good except those for October, which are fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--30 years (water years 1909-11, 1930-31, 1962-86), 1,215 ft³/s, 19.14 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,500 ft³/s, Mar. 7, 1967, gage height, 31.98 ft; minimum (estimated), 2.0 ft³/s, Oct. 1-10, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 29	0800	*17,900	*20.07	No other peak greater than base discharge.			

Minimum daily discharge, 51 ft³/s, Oct. 20; minimum gage height, 10.11 ft, Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	58	2580	405	816	1900	560	610	603	1190	144	217
2	86	70	1760	414	946	1690	544	565	530	4790	136	218
3	151	90	1230	404	1680	1540	515	512	473	2510	125	634
4	120	340	933	401	3680	1370	499	466	426	1110	121	1220
5	186	2720	813	408	3900	1250	472	431	411	654	114	1510
6	130	3790	952	402	2990	1180	468	406	404	467	105	1000
7	93	2020	945	381	3980	1190	463	392	430	368	203	655
8	76	1020	882	282	4590	1090	440	485	530	308	154	477
9	64	636	842	230	3230	1040	431	714	670	279	160	367
10	55	463	781	298	2380	1050	430	597	553	488	152	298
11	54	383	743	361	2020	1400	421	517	528	1280	189	257
12	54	353	955	358	1590	1630	404	464	503	1130	201	247
13	62	304	3000	367	1290	1640	394	475	417	1260	166	277
14	62	276	6140	289	1130	1980	383	2010	369	1580	133	229
15	62	251	3420	332	1100	4330	374	2110	329	1040	109	197
16	66	234	2240	296	1050	4350	369	1350	299	694	103	182
17	66	229	1660	311	4410	3200	390	1040	268	578	105	161
18	62	224	1280	319	12400	2280	415	945	239	499	836	150
19	58	198	999	335	6000	1880	390	998	216	423	366	154
20	51	180	845	466	3970	1570	364	2890	203	368	369	222
21	84	170	777	591	3000	1270	380	3520	202	369	647	297
22	152	551	637	916	2500	1070	503	2270	199	356	401	248
23	165	1170	675	1960	2750	961	615	1580	181	292	294	202
24	152	995	643	1950	2730	890	641	1170	172	253	879	229
25	133	693	610	1590	2850	792	617	930	191	229	657	695
26	172	535	450	1750	2500	732	678	798	207	220	390	533
27	152	3490	471	1720	2410	721	835	735	166	211	294	571
28	115	6290	561	1270	2230	710	832	819	150	200	341	799
29	90	15000	465	1120	---	643	760	878	214	199	408	735
30	79	5030	424	1210	---	611	676	803	240	186	307	515
31	62	---	397	931	---	587	---	691	---	164	244	---
TOTAL	2970	47763	39110	22067	84122	46547	15263	32171	10323	23695	8853	13496
MEAN	95.8	1592	1262	712	3004	1502	509	1038	344	764	286	450
MAX	186	15000	6140	1960	12400	4350	835	3520	670	4790	879	1510
MIN	51	58	397	230	816	587	364	392	150	164	103	150
CFSM	.11	1.85	1.46	.83	3.49	1.74	.59	1.20	.40	.89	.33	.52
IN.	.13	2.06	1.69	.95	3.63	2.01	.66	1.39	.45	1.02	.38	.58

CAL YR 1985	TOTAL	413034	MEAN	1132	MAX	15000	MIN 29	CFSM 1.31	IN 17.82
WTR YR 1986	TOTAL	346380	MEAN	949	MAX	15000	MIN 51	CFSM 1.10	IN 14.95

KANAWHA RIVER BASIN

03200500 COAL RIVER AT TORNADO, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to September 1983.

TEMPERATURE: May to July 1975 (partial-record station), June to September 1976 (published as once-daily), October 1976 to September 1984.

TURBIDITY: October 1980 to current year.

SUSPENDED-SEDIMENT DISCHARGE: December 1972 to September 1984.

COOPERATION.--Once-daily observed turbidity records from October 1984 to current year were furnished by Washington Public Service District.

INSTRUMENTATION.--Temperature recorder November 1973 to September 1984. Turbidity recorder October 1981 to September 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,020 microsiemens, Oct. 23, 24, 1973; minimum daily, 88 microsiemens, Dec. 9, 1978, June 22, 1979.

WATER TEMPERATURE: Maximum recorded, 31.5°C, July 8, 19, 20, 1977; minimum recorded, -0.5°C, Dec. 31, 1980, Jan. 1, 2, 1981.

TURBIDITY: Maximum, 1,500 NTU, May 30, 1982; minimum, 0.2 NTU, Nov. 15, 1982.

SEDIMENT CONCENTRATION: Maximum daily mean, 4,000 mg/L, Mar. 17, 1973; minimum daily mean, 0 mg/L, on several days in April 1978, Feb. 5, Mar. 21, 22, 1979, Jan. 17, Apr. 29, 1982.

SEDIMENT LOAD: Maximum daily, 263,000 tons, Jan. 26, 1978; minimum daily, 0 ton, on several days in April 1978, Feb. 5, Mar. 21, 22, 1979, Jan. 17, Apr. 29, 1982.

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: Maximum daily, 900 NTU, Aug. 18; minimum daily, 2.0 NTU, Apr. 23.

TURBIDITY (NTU), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	11	90	10	20	60	12	10	15	15	12	28
2	11	10	60	8.0	15	40	17	12	15	10	8.0	36
3	15	8.0	40	8.0	10	20	15	13	18	40	8.0	28
4	10	19	40	6.0	70	20	15	13	15	10	10	150
5	10	130	40	10	70	20	12	14	12	8.0	12	120
6	11	150	40	14	65	38	12	18	18	6.0	10	50
7	9.0	100	40	10	65	10	11	16	10	5.0	12	30
8	9.0	50	18	9.0	85	14	10	20	18	5.0	12	28
9	8.0	18	15	9.0	75	20	10	18	20	10	14	28
10	8.0	15	5.0	9.0	75	30	10	16	25	20	15	27
11	8.0	14	27	8.0	20	50	10	6.0	25	180	18	18
12	5.0	15	28	9.0	20	40	10	8.0	23	160	16	28
13	3.0	11	45	9.0	15	26	10	10	22	120	18	25
14	3.0	15	90	7.0	9.0	24	10	18	20	160	14	27
15	5.0	11	24	7.0	9.0	32	10	65	18	55	12	25
16	7.0	10	28	6.0	9.0	20	18	30	15	50	10	25
17	7.0	9.0	27	10	10	29	18	25	18	40	15	28
18	8.0	9.0	15	8.0	15	22	20	19	15	30	900	25
19	5.0	9.0	10	10	17	28	18	18	18	25	400	22
20	8.0	10	7.0	10	20	15	18	310	20	20	230	20
21	6.0	15	7.0	9.0	30	15	9.0	160	15	35	210	20
22	12	30	8.0	10	45	12	5.0	45	10	30	200	15
23	20	60	8.0	80	45	10	2.0	30	12	25	180	18
24	10	60	12	60	60	10	12	29	6.0	20	120	20
25	12	50	15	70	60	17	12	15	8.0	20	110	60
26	15	21	13	80	40	15	18	12	8.0	18	95	45
27	20	19	14	20	60	16	20	25	10	18	60	110
28	18	110	13	20	50	17	4.0	20	9.0	16	40	50
29	15	180	13	10	---	15	5.0	18	10	14	45	55
30	12	110	14	10	---	14	9.0	20	12	12	29	30
31	11	---	13	10	---	14	---	30	---	15	29	---
MEAN	10	40	26	18	39	23	12	34	15	38	90	40
WTR YR 1986	MEAN	33		MAX	900		MIN	2.0				

KANAWHA RIVER BASIN

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03200650 KANAWHA RIVER AT POCA, WV

LOCATION.--Lat 38°28'29", long 81°49'09", Putnam County, Hydrologic Unit 05050008, on left bank at John Amos Power Plant, at Poca, 200 ft upstream from Pocatalico River, and at mile 39.2.

DRAINAGE AREA.--11,435 mi², excludes that of Pocatalico River.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1975 to current year.

COOPERATION.--Records were furnished by Appalachian Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 37.0°C, July 27, 1982; minimum daily, 0.0°C, Jan. 18, 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum daily observed, 33.5°C, June 12; minimum daily observed, 10.0°C, Dec. 18.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	22.0	16.0	19.0	14.5	20.5	19.0	---	26.5	---	---
2	---	---	20.0	---	18.5	15.0	28.0	16.5	21.0	27.0	---	23.0
3	28.0	---	17.0	15.5	---	15.5	27.0	18.0	20.5	29.0	---	23.5
4	---	---	19.5	16.0	---	15.0	15.5	---	22.0	---	29.0	23.5
5	---	---	23.5	18.5	---	15.5	16.0	17.0	---	---	29.0	23.5
6	---	25.5	24.0	15.5	28.5	---	---	---	24.0	---	29.0	22.0
7	---	24.0	22.0	17.0	26.0	19.5	17.0	18.0	---	22.0	29.0	---
8	25.0	26.0	22.0	---	21.0	15.5	17.0	---	---	24.0	29.0	21.0
9	26.5	24.5	23.0	---	18.5	25.5	18.0	20.0	24.0	24.0	29.5	21.0
10	29.5	25.5	24.5	19.0	20.5	27.0	---	---	---	24.0	---	22.0
11	26.5	26.0	25.5	16.0	18.5	25.0	15.5	---	25.0	24.0	28.5	21.0
12	26.5	26.5	25.0	22.0	18.0	25.5	---	21.0	33.5	---	28.0	22.0
13	25.5	28.0	25.0	18.0	---	---	---	21.0	---	---	28.0	---
14	31.0	---	17.0	15.5	---	---	16.5	21.0	26.0	25.5	31.0	---
15	31.0	26.5	13.0	16.5	---	---	17.0	20.0	26.0	25.5	28.0	23.5
16	30.5	24.0	16.5	---	---	---	15.5	20.0	26.5	25.5	---	23.5
17	25.5	20.5	15.5	---	---	25.0	15.5	21.0	25.5	---	---	23.5
18	26.0	23.5	10.0	---	---	---	15.5	---	23.0	25.5	26.5	23.5
19	28.0	27.0	14.5	---	---	32.0	15.5	21.0	25.5	---	26.5	23.5
20	29.5	---	---	---	---	23.0	---	20.5	26.5	---	31.5	---
21	27.0	21.5	---	---	26.0	17.0	15.5	20.0	---	28.0	28.0	---
22	28.5	---	---	---	---	16.5	14.5	10.5	---	28.0	27.0	23.5
23	26.0	---	---	---	16.5	19.0	15.0	19.0	---	29.0	28.0	23.5
24	31.5	---	---	20.0	---	24.0	14.5	---	26.5	29.0	---	23.0
25	---	24.0	---	20.0	---	23.5	14.5	---	28.0	28.5	28.0	23.5
26	---	29.5	---	19.0	20.0	---	14.5	---	28.0	---	26.5	---
27	23.5	29.5	---	14.5	20.0	---	---	---	28.0	---	---	---
28	---	25.0	---	---	20.5	20.0	16.5	---	28.0	---	26.5	---
29	25.0	---	---	22.0	---	20.0	---	---	---	30.0	26.5	24.5
30	---	---	16.5	---	---	20.0	18.0	20.0	---	30.0	---	24.5
31	---	---	18.5	18.5	---	20.5	---	---	---	30.0	---	---
MEAN	27.5	25.5	19.5	18.0	21.0	20.5	17.0	19.0	25.5	27.0	28.0	23.0
WTR YR 1986	MEAN	22.5		MAX	33.5		MIN	10.0				

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV
(National stream-quality accounting network station)

LOCATION.--Lat 38°31'32", long 81°54'40", Putnam County, Hydrologic Unit 05050008, on left bank at intake line to Ohio River Valley Water Sanitation Commission (ORSANCO) monitor at Kanawha Valley Power Company raw water intake at Winfield Dam, 1.0 mi downstream from Winfield Bridge, and at mile 31.1.

DRAINAGE AREA.--11,809 mi².

PERIOD OF RECORD.--Water years 1957-70, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1957 to September 1970, January 1974 to September 1980.

pH: October 1974 to September 1980.

WATER TEMPERATURE: October 1956 to September 1970, January 1974 to September 1980.

DISSOLVED OXYGEN: October 1974 to September 1980.

REMARKS.--Discharges in water-quality tables are estimated. Sediment analyses performed by West Virginia Department of Natural Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,700 microsiemens, Apr. 21, 1961; minimum 76 microsiemens, Mar. 17, 1978.

pH: Maximum daily, 8.6 units, May 14, 1977; minimum daily, 5.3 units, July 16, 1979.

WATER TEMPERATURE: Maximum daily, 33.0°C, July 24, 1964; minimum daily, 0.0°C, Feb. 14, 1958, Mar. 12, 1960, Jan. 30, 1978.

DISSOLVED OXYGEN: Maximum daily, 16.0 mg/L, Feb. 19, 20, 1977; minimum daily, 3.1 mg/L, July 28, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
DEC 12...	1000	E17800	162	7.60	7.5	745	--	--	720	92	51
MAR 27...	1200	E11500	185	7.70	10.0	715	10.0	94	K32	K8	61
JUL 25...	1400	E3350	242	7.70	29.0	741	5.9	79	53	K27	68
SEP 08...	1700	E6450	198	7.40	21.5	744	7.3	85	360	K50	70

DATE	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER DISSOLV FIELD AS HCO3 (MG/L)	CAR- BONATE WATER DISSOLV FIELD AS CO3 (MG/L)	ALKA- LINITY WATER DISSOLV FLD. AS CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
DEC 12...	24	13	4.4	7.8	1.6	32	0	26	20	8.0	<1.0
MAR 27...	37	15	5.6	9.6	1.7	29	0	24	34	8.3	<0.10
JUL 25...	32	16	6.8	17	2.0	44	0	35	49	17	0.10
SEP 08...	29	17	6.7	11	2.2	50	0	41	38	9.7	0.10

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
DEC 12...	6.1	76	80	0.010	0.670	0.130	0.140	0.27	0.40	0.040	0.030
MAR 27...	5.5	104	100	<0.010	0.740	0.100	0.100	0.50	0.60	0.050	0.020
JUL 25...	5.2	153	140	0.020	0.500	0.250	0.250	0.35	0.60	0.050	0.050
SEP 08...	6.1	140	120	<0.010	0.650	0.090	0.080	0.51	0.60	0.070	0.040

K Results based on colony count outside the accepted range (non-ideal colony count).

KANAWHA RIVER BASIN

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03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued
(National stream-quality accounting network station)

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
DEC 12...	0.020	40	<1	42	<0.5	10	<1	<3	2	61	<1
MAR 27...	0.020	--	<1	42	<0.5	5	2	<3	4	36	1
JUL 25...	<0.010	--	--	--	--	--	--	--	--	--	--
SEP 08...	0.030	40	<1	48	0.9	<1	<1	<3	5	19	<5

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)
DEC 12...	<4	52	<0.1	<10	<1	<1	<1	90	<6	10	0.5
MAR 27...	5	61	<0.1	<10	5	<1	<1	120	<6	42	--
JUL 25...	--	--	--	--	--	--	--	--	--	--	--
SEP 08...	9	19	<0.1	<10	3	<1	<1	140	<6	4	--

DATE	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (PCI/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 12...	<0.5	0.3	1.9	<0.6	1.6	<0.6	0.04	<0.16	4	192	94
MAR 27...	--	--	--	--	--	--	--	--	8	248	63
JUL 25...	--	--	--	--	--	--	--	--	9	81	48
SEP 08...	--	--	--	--	--	--	--	--	14	244	91

OHIO RIVER MAIN STEM

03201500 OHIO RIVER AT POINT PLEASANT, WV

LOCATION.--Lat 38°50'25", long 82°08'30", Mason County, Hydrologic Unit 05030202, on left bank at Point Pleasant, 1,200 ft upstream from Kanawha River, and at mile 265.4 measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--52,760 mi², approximately, includes that of Kanawha River.

PERIOD OF RECORD.--March 1940 to September 1977, (since October 1952, no low-flow records). October 1977 to current year (gage heights only). Records of gage heights collected in this vicinity since 1889 are in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 514.10 ft, Sandy Hook datum. Prior to Oct. 1, 1951, water-stage recorder at site 0.3 mi upstream at same datum.

REMARKS.--U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--12 years (water years 1941-52), 74,350 ft³/s, 19.14 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 55.00 ft, Apr. 16, 1948; minimum gage height recorded, 22.52 ft, Sept. 10, 1956.

EXTREME OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 62.8 ft, Mar. 30, 1913. Flood of Jan. 27, 1937 reached a stage of 62.7 ft.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 42.15 ft, Dec. 1; minimum, 23.65 ft, Oct. 23.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.08	24.20	41.86	24.53	25.07	26.15	24.89	24.84	24.57	24.86	24.68	24.63
2	24.02	24.20	37.37	24.59	25.05	25.70	24.76	24.80	24.78	25.84	24.49	24.73
3	24.02	24.23	31.78	24.59	25.10	25.23	24.73	24.73	24.55	26.12	24.52	24.88
4	23.96	24.86	28.47	24.61	25.50	25.09	24.67	24.70	24.78	26.20	24.56	24.88
5	24.04	29.10	27.20	24.57	28.28	25.08	24.84	24.74	24.69	25.43	24.46	24.88
6	24.22	35.36	26.58	24.67	34.92	25.05	24.87	24.67	24.60	24.70	24.74	24.53
7	24.04	37.32	26.35	24.66	35.13	25.19	24.88	24.73	24.43	24.58	24.86	24.88
8	23.87	37.45	26.29	24.68	36.03	24.99	24.88	24.73	24.67	24.66	24.72	24.41
9	24.03	29.97	25.63	24.69	35.26	24.97	24.74	24.56	24.81	24.77	24.83	24.80
10	24.10	25.83	25.25	24.63	29.35	24.82	24.82	24.40	24.62	25.67	24.66	24.83
11	23.99	25.42	25.11	24.54	27.60	24.98	24.80	24.71	24.48	26.51	24.76	24.76
12	24.09	25.86	25.75	24.55	27.10	25.49	24.67	24.63	24.59	25.54	24.40	24.82
13	24.31	26.53	27.78	24.52	26.69	26.19	24.65	24.68	25.34	24.78	24.49	24.88
14	24.20	27.26	29.82	24.51	26.21	26.84	24.73	24.56	25.98	25.10	24.68	24.97
15	24.16	27.35	30.23	24.51	25.78	27.50	24.79	24.76	25.07	25.31	24.49	24.81
16	24.16	27.04	28.76	24.52	25.77	28.82	24.71	24.64	24.68	24.64	24.60	24.78
17	24.07	27.99	27.14	24.52	25.81	30.52	24.78	24.63	24.87	24.64	24.71	24.63
18	24.02	30.02	26.47	24.56	29.50	30.29	25.01	24.63	24.68	24.81	24.54	24.81
19	24.27	30.98	26.32	24.61	32.01	28.41	25.12	24.60	24.74	24.49	24.60	24.67
20	24.13	26.94	25.77	24.74	32.25	28.31	25.11	24.74	24.65	24.55	24.67	24.63
21	24.20	26.02	25.34	25.12	32.14	27.20	25.06	24.74	24.58	24.84	24.73	24.84
22	24.05	25.74	25.21	25.88	31.48	26.55	24.90	24.84	24.58	25.75	24.53	24.57
23	23.91	25.69	25.05	26.74	30.01	26.41	25.01	24.63	24.73	25.54	24.61	24.63
24	23.98	26.03	24.97	27.14	28.88	25.82	25.22	24.56	24.53	24.97	24.71	24.86
25	23.92	26.08	25.02	27.30	27.77	25.52	25.30	24.78	24.66	24.62	24.64	24.55
26	23.90	25.69	24.96	27.11	27.36	25.16	25.26	24.65	24.66	24.45	24.68	24.94
27	24.10	26.20	24.90	26.83	27.00	25.15	25.18	24.40	24.73	24.62	24.73	24.67
28	23.84	34.34	24.89	26.38	26.70	25.07	24.91	24.76	24.49	24.90	24.50	24.91
29	23.83	39.82	24.84	25.63	---	24.94	24.91	24.72	24.70	24.52	24.91	24.39
30	23.98	41.89	24.68	25.36	---	24.94	24.87	24.69	24.63	24.45	24.63	24.71
31	24.09	---	24.60	25.19	---	24.84	---	24.66	---	24.56	24.79	---
MEAN	24.05	28.85	27.24	25.18	28.92	26.17	24.90	24.67	24.73	25.05	24.64	24.74
MAX	24.31	41.89	41.86	27.30	36.03	30.52	25.30	24.84	25.98	26.51	24.91	24.97
MIN	23.83	24.20	24.60	24.51	25.05	24.82	24.65	24.40	24.43	24.45	24.40	24.39

WTR YR 1986 MEAN 25.74 MAX 41.89 MIN 23.83

GUYANDOTTE RIVER BASIN

03202400 GUYANDOTTE RIVER NEAR BAILEYSVILLE, WV

LOCATION.--Lat 37°36'14", long 81°38'43", Wyoming County, Hydrologic Unit 05070101, on right bank 75 ft upstream from Doublecamp Branch, 3.1 mi east of Baileysville, and at mile 130.8.

DRAINAGE AREA.--306 mi².

PERIOD OF RECORD.--July 1968 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,140.00 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 10, 1969, at site 25 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 9-12. Records good except for period with ice effect, which is poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--18 years, 432 ft³/s, 19.17 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,700 ft³/s, Apr. 5, 1977, gage height, 26.89 ft, from rating curve extended above 14,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 21 ft³/s, Oct. 14, 1970, gage height, 2.44 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 29	0400	*3,410	*8.20	No other peak greater than base discharge.			

Minimum discharge, 32 ft³/s, Oct. 18, 19, gage height, 2.71 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	35	628	155	236	464	253	229	253	132	73	67
2	52	35	522	159	410	429	243	213	243	434	71	97
3	53	37	394	161	1090	410	236	201	233	405	71	151
4	45	152	304	175	1830	391	223	186	201	220	65	216
5	43	505	265	171	1190	360	223	177	260	153	64	177
6	43	399	261	157	840	356	207	175	226	126	82	156
7	41	258	230	168	1610	347	207	166	278	109	94	113
8	38	171	208	129	1290	310	204	485	253	97	95	83
9	39	123	200	88	902	310	198	506	243	99	92	70
10	41	95	198	110	707	322	198	382	201	169	79	61
11	39	78	198	120	608	387	183	310	189	396	76	64
12	41	70	240	120	479	420	180	271	204	226	82	74
13	42	63	450	137	410	449	169	578	180	405	73	87
14	45	56	817	121	378	573	164	1650	164	256	64	68
15	41	53	634	119	382	2300	164	1320	153	177	58	56
16	43	54	468	100	343	1530	175	840	141	146	56	55
17	42	61	362	102	614	1060	180	626	134	169	79	53
18	35	61	291	115	1830	822	172	506	123	144	65	49
19	34	53	205	158	1370	694	166	550	113	121	60	107
20	36	56	208	290	1180	578	161	1280	109	115	80	177
21	47	48	200	286	987	479	183	1090	105	204	88	111
22	69	157	148	318	858	424	213	816	101	139	68	83
23	63	342	200	410	980	391	216	626	95	109	60	82
24	49	216	185	405	960	364	223	511	123	99	88	201
25	44	161	175	360	828	338	216	429	148	88	101	223
26	48	135	123	351	694	314	250	391	109	90	67	156
27	45	183	144	326	650	322	298	373	97	88	58	119
28	41	908	157	233	544	306	290	369	99	83	77	126
29	35	2390	135	256	---	282	282	334	97	79	115	130
30	36	970	117	278	---	271	246	302	94	79	83	103
31	36	---	125	233	---	260	---	282	---	74	65	---
TOTAL	1345	7925	8792	6311	24200	16263	6323	16174	4969	5231	2349	3315
MEAN	43.4	264	284	204	864	525	211	522	166	169	75.8	111
MAX	69	2390	817	410	1830	2300	298	1650	278	434	115	223
MIN	34	35	117	88	236	260	161	166	94	74	56	49
CFSM	.14	.86	.93	.67	2.82	1.72	.69	1.71	.54	.55	.25	.36
IN.	.16	.96	1.07	.77	2.94	1.98	.77	1.97	.60	.64	.29	.40

CAL YR 1985	TOTAL	127098	MEAN 348	MAX 4340	MIN 34	CFSM 1.14	IN 15.45
WTR YR 1986	TOTAL	103197	MEAN 283	MAX 2390	MIN 34	CFSM .93	IN 12.55

GUYANDOTTE RIVER BASIN

03202750 CLEAR FORK AT CLEAR FORK, WV

LOCATION.--Lat 37°37'23", long 81°42'27", Wyoming County, Hydrologic Unit 05070101, on left bank 0.2 mi downstream from Walls Branch, 0.7 mi upstream from Spratt Branch, 1.4 mi southwest of Clear Fork, and at mile 2.6.

DRAINAGE AREA.--126 mi².

REVISED RECORDS.--WDR WV-81-1: Drainage area.

PERIOD OF RECORD.--June 1974 to current year. Prior to October 22, 1974, partial record station.

GAGE.--Water-stage recorder. Elevation of gage is 1,150 ft above National Geodetic Vertical Datum of 1929, from topographic map. June 28, 1974 to Oct. 22, 1974, nonrecording gage; Oct. 23, 1974 to Oct. 26, 1977, digital recorder at site 0.9 mi upstream at different datum; Oct. 27, 1977 to Dec. 31, 1980, digital recorder at site 0.2 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Dec. 30, 31, and Jan. 2, 8, 9. Records good except for periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--12 years, 199 ft³/s, 21.45 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,900 ft³/s, Apr. 5, 1977, gage height, 18.64 ft, site and datum then in use, from rating curve extended above 3,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 3.6 ft³/s, Oct. 11, 1983, gage height, 1.47 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 29	0100	*3,130	*8.40	Feb. 18	0200	1,960	6.70
Feb. 4	0300	2,050	6.86				

Minimum discharge, 5.8 ft³/s, Oct. 12, 13; minimum gage height, 1.66 ft, Aug. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	7.1	430	58	106	186	67	101	91	19	9.4	20
2	11	8.9	345	57	358	170	63	93	83	197	8.9	29
3	30	11	261	57	1210	168	60	77	72	170	8.0	62
4	30	275	206	62	1630	150	57	68	62	74	7.5	115
5	21	630	176	62	765	141	52	63	55	46	7.5	91
6	16	606	192	60	449	139	49	58	51	34	7.1	60
7	13	296	168	63	1130	139	60	55	49	27	12	38
8	11	150	153	49	850	117	52	192	65	24	14	27
9	8.4	93	141	54	494	115	51	206	62	22	11	21
10	7.1	68	143	63	339	136	54	150	46	33	11	17
11	6.6	55	158	67	275	220	51	119	41	42	20	15
12	6.2	46	203	62	203	261	48	103	37	46	21	17
13	6.6	40	622	55	158	275	46	290	35	62	18	17
14	7.1	36	950	52	143	438	45	864	32	54	12	15
15	7.5	33	486	54	141	1250	42	441	27	37	9.4	13
16	10	31	308	49	119	860	45	273	25	31	8.4	11
17	9.4	49	229	46	642	534	49	200	22	38	12	8.9
18	7.5	49	176	41	1630	355	51	158	20	34	23	8.4
19	7.5	42	134	63	874	281	45	290	18	26	14	32
20	7.1	41	121	139	667	214	46	1300	17	22	25	55
21	10	38	108	143	515	165	60	646	18	62	21	37
22	22	217	91	200	416	137	85	365	16	37	17	25
23	23	413	103	305	494	125	113	250	14	23	14	22
24	18	232	87	284	479	117	115	186	14	21	74	49
25	20	146	81	232	392	99	101	146	17	24	45	87
26	17	119	63	206	323	93	130	125	14	19	22	52
27	14	365	79	176	290	91	181	153	13	17	17	37
28	12	1330	65	146	239	85	165	170	12	17	24	44
29	11	2080	63	220	---	77	141	146	13	17	24	44
30	8.4	700	62	186	---	74	119	125	15	14	18	34
31	7.5	---	57	117	---	68	---	108	---	12	14	---
TOTAL	394.3	8207.0	6461	3428	15331	7280	2243	7521	1056	1301	549.2	1103.3
MEAN	12.7	274	208	111	548	235	74.8	243	35.2	42.0	17.7	36.8
MAX	30	2080	950	305	1630	1250	181	1300	91	197	74	115
MIN	6.2	7.1	57	41	106	68	42	55	12	12	7.1	8.4
CFSM	.10	2.18	1.65	.88	4.35	1.87	.59	1.93	.28	.33	.14	.29
IN.	.12	2.42	1.91	1.01	4.53	2.15	.66	2.22	.31	.38	.16	.33

CAL YR 1985	TOTAL	71775.0	MEAN 197	MAX	2750	MIN 4.4	CFSM 1.56	IN 21.19
WTR YR 1986	TOTAL	54874.8	MEAN 150	MAX	2080	MIN 6.2	CFSM 1.19	IN 16.20

GUYANDOTTE RIVER BASIN

03202915 GUYANDOTTE RIVER BELOW R. D. BAILEY DAM, WV

LOCATION.--Lat 37°35'53", long 81°49'46", Mingo County, Hydrologic Unit 05070101, on right bank, 500 ft upstream from Little Huff Creek, 2,500 ft downstream from R. D. Bailey Dam and 0.5 mi northeast of Justice, and at river mile 111.6.

DRAINAGE AREA.--535 mi².

PERIOD OF RECORD.--November 1978 to September 1982, October 1982 to current year (gage heights, discharge measurements and annual maximum discharge only).

GAGE.--Water-stage recorder. Datum of gage is 880.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records for winter periods not adjusted for ice effect. Flow regulated since February 1980 by R. D. Bailey Lake at mile 112. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft³/s, June 22, 1979, gage height, 13.90 ft; minimum discharge, 2.1 ft³/s, Dec. 18, 1978; minimum daily discharge, 38 ft³/s, Nov. 22, 23, 1978; minimum gage height observed, 1.91 ft, Aug. 30, 1983 (gates closed) but may have been less Sept. 14, 30, 1983 (gates closed).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,240 ft³/s, Dec. 1, gage height, 9.06 ft; minimum gage height, 2.44 ft, Apr. 1.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.09	3.08	4.84	3.27	4.05	5.05	3.01	3.85	4.01	3.21	2.76	3.13
2	3.09	3.09	8.93	3.65	5.25	5.05	2.52	3.90	3.65	4.42	2.76	3.15
3	3.26	3.09	8.91	3.74	7.03	4.83	2.52	3.99	3.65	5.00	2.87	3.14
4	3.32	4.12	6.25	3.55	7.49	4.72	2.51	3.72	3.65	4.03	2.93	4.00
5	3.23	5.84	5.21	3.64	7.46	4.71	2.51	3.44	3.71	3.48	2.72	3.92
6	3.23	6.27	3.89	3.84	7.63	4.62	2.51	3.44	3.66	3.28	2.82	3.63
7	3.22	5.16	4.27	3.66	7.98	4.49	2.55	3.44	3.56	3.22	3.06	3.30
8	3.10	4.09	4.25	3.43	7.98	4.49	2.54	4.90	4.04	3.06	3.05	3.49
9	3.07	3.66	4.29	3.27	7.93	4.49	2.53	5.72	3.87	3.06	3.15	3.77
10	3.07	3.63	4.20	3.36	6.88	4.32	2.53	4.89	3.68	3.36	2.99	3.62
11	3.07	3.57	4.25	3.53	5.85	4.39	2.53	4.92	3.57	4.36	2.88	3.38
12	3.07	3.44	4.40	3.53	5.02	5.05	2.53	4.45	3.48	4.19	2.91	3.20
13	3.07	3.36	5.30	3.54	4.91	5.34	2.52	5.12	3.36	4.22	3.21	2.99
14	3.08	3.44	6.69	3.53	4.73	5.65	2.52	5.44	3.38	4.27	3.05	3.00
15	3.16	3.34	6.69	3.54	4.98	6.76	2.52	6.49	3.44	3.76	2.71	3.15
16	3.11	3.29	5.56	3.45	4.82	7.51	2.53	7.40	3.44	3.33	2.71	2.99
17	3.01	3.44	4.99	3.29	5.19	7.99	2.53	6.14	3.11	3.33	3.24	2.99
18	3.01	3.51	4.60	3.29	7.81	8.07	2.53	5.36	2.94	3.33	3.04	2.99
19	3.01	3.55	4.26	3.30	8.93	6.44	2.52	4.95	3.05	3.33	2.87	3.55
20	3.01	3.58	3.98	4.00	7.98	5.21	2.52	6.83	3.12	3.26	3.01	3.84
21	3.23	3.45	3.91	4.57	6.99	5.35	2.54	7.90	3.12	3.35	3.01	3.65
22	3.26	3.96	3.91	4.66	6.63	4.92	2.56	6.39	3.12	3.69	3.13	3.36
23	3.22	4.89	3.98	5.41	6.36	4.72	2.91	5.42	3.12	3.25	3.16	3.42
24	3.32	5.07	4.00	5.38	6.96	4.42	3.93	5.00	3.13	3.07	3.13	4.23
25	3.17	4.92	3.84	5.12	6.49	4.42	4.05	4.66	3.13	3.07	3.33	4.35
26	3.10	4.13	3.67	4.62	5.85	4.22	4.06	4.66	3.12	3.07	3.15	3.92
27	3.11	4.40	3.58	4.63	5.72	4.11	4.35	4.67	3.13	3.06	2.91	3.61
28	3.11	6.56	3.58	3.99	5.28	4.21	4.67	4.68	3.13	3.06	3.12	3.62
29	3.10	6.52	3.58	4.01	---	4.34	4.62	4.59	3.13	3.06	2.91	3.61
30	3.09	3.21	3.49	4.55	---	4.12	4.31	4.37	3.10	3.05	3.29	3.16
31	3.09	---	3.19	4.35	---	3.91	---	4.13	---	2.85	3.04	---
MEAN	3.13	4.12	4.73	3.93	6.44	5.09	2.97	5.00	3.39	3.49	3.00	3.47
MAX	3.32	6.56	8.93	5.41	8.93	8.07	4.67	7.90	4.04	5.00	3.33	4.35
MIN	3.01	3.08	3.19	3.27	4.05	3.91	2.51	3.44	2.94	2.85	2.71	2.99

WTR YR 1986 MEAN 4.05 MAX 8.93 MIN 2.51

GUYANDOTTE RIVER BASIN

03203600 GUYANDOTTE RIVER AT LOGAN, WV

LOCATION.--Lat 37°50'32", long 81°58'34", Logan County, Hydrologic Unit 05070101, on right bank 200 ft downstream from Middelburg Bridge at Logan, 0.8 mi downstream from Dingess Run, 1.1 mi upstream from Island Creek, and at mile 81.0.

DRAINAGE AREA.--833 mi².

PERIOD OF RECORD.--October 1960 to September 1962 (annual maximum only), October 1962 to current year. Gage-height records collected in this vicinity since November 1915 are contained in reports of National Weather Service.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 640.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1962, at datum 1.32 ft lower.

REMARKS.--Estimated daily discharges: Jan. 8-10. Records good except for period with ice effect, which is poor. Flow regulated since February 1980 by R. D. Bailey Lake at mile 112. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--24 years, 1,178 ft³/s, 19.20 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,000 ft³/s, Mar. 12, 1963, gage height, 34.98 ft, from rating curve extended above 26,000 ft³/s on basis of slope-area measurements at gage heights 25.6 ft and 34.98 ft; minimum discharge, 33 ft³/s, Sept. 17, 1964; minimum gage height, 3.96 ft, Sept. 16, Oct. 2, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,800 ft³/s, Nov. 29, gage height, 14.72 ft; minimum, 82 ft³/s, Aug. 16, gage height, 4.29 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	164	871	301	686	1440	525	623	646	239	126	178
2	211	181	4670	310	1420	1400	271	541	510	770	100	255
3	207	194	4840	459	3710	1330	225	566	429	1050	98	236
4	263	686	3640	412	5070	1180	218	566	412	788	107	275
5	232	2340	1090	385	3990	1130	207	396	407	407	126	615
6	207	2730	1060	424	3570	1140	204	374	472	283	93	465
7	200	1840	910	453	5050	1030	218	374	339	236	117	329
8	194	910	788	340	4650	979	207	949	566	211	172	221
9	158	510	891	280	4130	979	200	1790	525	191	161	324
10	153	472	753	290	3300	969	204	1100	487	251	184	354
11	156	390	770	344	1900	1010	194	1090	418	549	197	292
12	153	374	862	349	1490	1240	184	824	390	770	143	251
13	153	296	1820	354	1010	1560	181	1140	339	638	138	204
14	151	292	3020	339	1130	1790	175	1820	301	797	191	148
15	161	283	3170	344	959	3790	172	2460	305	566	156	148
16	197	251	1900	324	1200	4360	184	3600	305	354	89	167
17	158	283	1350	292	3390	4200	207	1870	296	275	292	136
18	141	283	1130	279	6620	4440	200	1490	191	259	287	133
19	141	305	815	334	6720	3130	184	1220	164	247	181	251
20	141	305	744	480	5680	1440	181	2490	191	243	225	441
21	194	296	615	770	3420	1540	243	4090	204	324	214	447
22	305	472	558	1070	3010	1200	319	2570	200	334	172	315
23	232	1090	591	1500	2700	1160	354	1570	194	305	197	251
24	251	1150	638	1670	3130	910	502	1170	200	211	324	600
25	271	1040	549	1410	3000	871	694	969	197	184	255	834
26	200	834	472	1220	2180	824	719	891	187	178	251	558
27	178	1010	424	1110	1950	744	719	999	184	178	197	424
28	175	4720	412	969	1740	710	959	1030	194	172	207	396
29	169	8000	396	661	---	779	940	969	200	172	207	364
30	164	1620	380	843	---	710	815	834	204	164	146	344
31	167	---	349	881	---	654	---	702	---	158	225	---
TOTAL	5858	33321	40478	19197	86805	48639	10605	41077	9657	11504	5578	9956
MEAN	189	1111	1306	619	3100	1569	354	1325	322	371	180	332
MAX	305	8000	4840	1670	6720	4440	959	4090	646	1050	324	834
MIN	141	164	349	279	686	654	172	374	164	158	89	133
CAL YR 1985	TOTAL	415681	MEAN	1139	MAX	8820	MIN 115	CFSM	1.37	IN	18.56	
WTR YR 1986	TOTAL	322675	MEAN	884	MAX	8000	MIN 89	CFSM	1.06	IN	14.41	

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV
(National stream-quality accounting network station)

LOCATION.--Lat 38°13'15", long 82°12'10", Lincoln County, Hydrologic Unit 05070102, on right bank at upstream side of highway bridge at Branchland, opposite mouth of Fourmile Creek, and at mile 35.3. Records include flow of Fourmile Creek.

DRAINAGE AREA.--1,224 mi², includes that of Fourmile Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1915 to September 1917, October 1917 to September 1922 (gage heights only), December 1928 to current year. Prior to October 1959, published as Guyandot River at Branchland. Monthly discharge only for July to September 1916, published in WSP 1305.

REVISED RECORDS.--WSP 853: 1918(M). WSP 1335: 1916-17, 1929-30, 1932-35. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 547.91 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to June 20, 1932, nonrecording gage and June 20, 1932, to Oct. 24, 1968, water-stage recorder at site 20 ft downstream at same datum. Oct. 1, 1942, to Jan. 23, 1969, auxiliary nonrecording gage and since Jan. 24, 1969, auxiliary water-stage recorder 4.0 mi upstream from base gage at datum 4.99 ft higher.

REMARKS.--Estimated daily discharges: Jan. 14-16 and Feb. 3-4, 18-20. Records good except for period with ice effect, Jan. 14-16, and periods with backwater, Feb. 3-4, 18-20, which are poor. Flow regulated since February 1980 by R. D. Bailey Lake at mile 112. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--59 years (water years 1916-17, 1930-86), 1,636 ft³/s, 18.15 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,500 ft³/s, Mar. 13, 1963, gage height, 43.83 ft; minimum, 3.6 ft³/s, Oct. 25, 1930, gage height, 2.66 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood, probably in 1907, reached a stage of about 44 ft, from floodmark, discharge, 43,500 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,900 ft³/s, Nov. 29, gage height, 24.27 ft; minimum, 130 ft³/s, Aug. 17-18, gage height, 3.01 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	202	2730	547	1190	2450	827	855	841	335	202	226
2	246	202	3000	482	1140	2160	715	687	827	778	198	226
3	297	209	5400	488	4400	2050	475	617	659	1240	165	463
4	246	355	5240	638	6800	1840	410	631	561	1130	161	371
5	279	2380	2730	582	6200	1650	388	610	534	778	158	377
6	275	4430	1860	547	5110	1580	371	457	508	469	181	610
7	246	3360	1270	589	6260	1540	366	433	568	350	168	469
8	234	2090	1300	582	6830	1380	360	645	575	288	158	355
9	226	1140	1170	439	5670	1320	350	1420	855	292	209	270
10	219	743	1190	382	4880	1310	335	1720	687	433	212	315
11	202	673	1060	439	3630	1430	335	1110	799	589	242	360
12	191	617	1240	501	2570	1580	320	1120	715	1270	262	340
13	188	547	2610	508	1940	1910	306	911	575	1630	202	315
14	184	463	4610	533	1660	2260	297	1960	469	1400	171	250
15	184	421	4430	475	1630	3760	288	2370	404	1080	205	198
16	161	404	3600	463	1650	5310	288	2870	388	764	202	161
17	191	382	2490	421	4450	4980	301	3030	371	514	149	205
18	216	382	1900	404	9880	5050	320	2060	355	393	266	168
19	202	382	1490	399	9130	4680	301	1550	275	350	320	171
20	195	388	1190	514	7780	3120	279	2180	230	325	246	297
21	216	371	1080	680	5880	1960	306	3870	238	340	258	463
22	340	708	918	1140	4370	1860	415	3980	250	445	242	451
23	377	1090	890	1650	4030	1520	463	2500	242	393	209	345
24	315	1430	890	2030	3930	1400	482	1710	238	366	262	350
25	315	1380	911	2110	4460	1160	652	1330	242	275	355	757
26	335	1240	771	2180	3740	1110	799	1110	234	234	279	827
27	270	3720	701	2000	3190	1070	834	1100	226	234	270	617
28	238	5670	673	1710	2910	982	862	1250	219	226	254	589
29	223	15600	638	1450	---	939	1000	1270	275	219	230	501
30	216	8320	596	1220	---	975	975	1150	266	212	246	421
31	209	---	568	1250	---	897	---	989	---	209	178	---
TOTAL	7427	59299	59146	27353	125310	65233	14420	47495	13626	17561	6860	11468
MEAN	240	1977	1908	882	4475	2104	481	1532	454	566	221	382
MAX	377	15600	5400	2180	9880	5310	1000	3980	855	1630	355	827
MIN	161	202	568	382	1140	897	279	433	219	209	149	161

CAL YR 1985 TOTAL 605515 MEAN 1659 MAX 15600 MIN 136 CFSM 1.36 IN 18.40
WTR YR 1986 TOTAL 455198 MEAN 1247 MAX 15600 MIN 149 CFSM 1.02 IN 13.83

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCLAND, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1965, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to November 1976, February to September 1977.

WATER TEMPERATURE: March to December 1976, February to September 1977.

TURBIDITY: October 1975 to December 1976.

SUSPENDED SEDIMENT DISCHARGE: March 1976 to September 1977.

REMARKS.--Sediment analyses performed by West Virginia Department of Natural Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 845 microsiemens, Aug. 27, 1976; minimum daily, 108 microsiemens, Feb. 11, 1977.

WATER TEMPERATURE: Maximum daily, 32.0°C, July 14, 1977; minimum daily, 1.0° C, several days in February 1977.

TURBIDITY: Maximum daily, 200 NTU, Mar. 21, Aug 15, 1976; minimum daily, 1 NTU, on several days in 1976.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,250 mg/L, Dec. 9, 1976; minimum daily mean, 5 mg/L, Oct. 24, 1976 and July 17, 20, 1977.

SEDIMENT LOADS: Maximum daily, 205,000 tons, Apr. 5, 1977; minimum daily, 2.3 tons, July 20, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	
							SURE (MM OF HG)						
NOV 25...	1800	1310	357	7.60	10.0	--	744	10.3	94	2500	370	94	
FEB 04...	1700	7220	212	7.50	6.5	94	742	12.0	100	2300	940	58	
MAR 26...	1900	1130	375	7.70	13.5	1.0	728	10.0	101	300	K13	100	
MAY 22...	1700	3670	240	7.70	16.5	22	740	8.1	85	2100	390	61	
JUL 31...	1730	200	582	8.20	25.0	0.50	741	6.0	75	77	38	140	
SEP 08...	1400	402	482	7.80	20.5	--	746	8.5	97	160	98	120	
DATE		HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER DISSOLV FIELD AS HCO3 (MG/L)	CAR- BONATE WATER DISSOLV FIELD AS CO3 (MG/L)	ALKA- LINITY WATER DISSOLV FLD. AS CACO3 (MG/L)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 25...	31	21	10	33	2.9	76	0	63	89	7.5	<0.10	6.4	
FEB 04...	34	13	6.2	13	2.1	29	0	24	54	7.2	<0.10	6.5	
MAR 26...	55	23	11	28	2.5	59	0	48	93	11	0.10	6.7	
MAY 22...	21	14	6.4	19	1.8	49	0	40	58	4.4	<0.10	6.3	
JUL 31...	30	32	15	69	3.7	136	0	112	150	23	0.20	2.5	
SEP 08...	21	28	13	57	3.3	124	0	102	130	10	0.20	4.2	

K Results based on colony count outside the acceptable (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)
NOV 25...	213	210	<0.010	0.600	0.030	0.020	0.47	0.50	0.050	0.010	0.010	50
FEB 04...	111	120	<0.010	0.600	0.040	0.030	0.86	0.90	0.080	<0.010	<0.010	--
MAR 26...	216	210	<0.010	0.420	0.020	0.020	0.18	0.20	0.020	<0.010	<0.010	--
MAY 22...	143	140	<0.010	0.380	0.030	--	0.27	0.30	0.050	<0.010	<0.010	--
JUL 31...	416	360	<0.010	0.200	<0.010	<0.010	--	<0.20	0.020	<0.010	<0.010	40
SEP 08...	274	310	<0.010	0.420	<0.010	<0.010	--	0.40	0.040	0.020	<0.010	--

[illegible]

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENIUM, DIS- SOLVED (UG/L AS MD)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM % FINER THAN .062 MM
NOV 25...	<0.1	<10	5	<1	<1	290	<6	9	170	601	18
FEB 04...	--	--	--	--	--	--	--	--	342	6670	71
MAR 26...	<0.1	<10	6	1	<1	390	<6	19	524	1600	100
MAY 22...	--	--	--	--	--	--	--	--	51	505	83
JUL 31...	<0.1	<10	1	<1	<1	630	<6	4	18	9.7	86
SEP 08...	--	--	--	--	--	--	--	--	34	37	73

OHIO RIVER MAIN STEM

03206000 OHIO RIVER AT HUNTINGTON, WV

LOCATION.--Lat 38°24'48", long 82°30'02", Lawrence County, Ohio, Hydrologic Unit 05090101, on right bank at lock 28 at Sybene, Ohio, 0.1 mi upstream from Fourpole Creek, 3.0 mi downstream from Symmes Creek, and at mile 311.6, measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--55,900 mi², approximately.

PERIOD OF RECORD.--August 1934 to current year (since October 1968, no low-flow records). Gage-height records collected at same site since 1913 are in reports of National Weather Service.

REVISED RECORDS.--WSP 853: 1934, 1936. WSP 893: Drainage area. WSP 1305: 1935(M), 1939(M).

GAGE.--Water-stage recorder. Datum of gage is 490.263 ft, Sandy Hook datum. Prior to July 8, 1942, at datum 1.737 ft higher. Auxiliary water-stage recorder 4.7 mi upstream from base gage at datum 490.102 ft (Sandy Hook datum).

REMARKS.--Estimated daily discharges: Nov. 11-12, 14, 17, 19, 22-29, Dec. 8-11, 13-26, Jan. 20-21, 27-31, Feb. 1-8, 14-16, 19-28, Mar. 1-13, 17-20, 23-28, Apr. 18-27, June 9, and July 11-16, 23-25. Records poor. Discharges less than 50,000 ft³/s not published. Flow regulated by Ohio River system of locks, dams, and reservoirs upstream. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--34 years (water years 1935-68), 75,240 ft³/s, 18.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 654,000 ft³/s, Jan. 28, 1937; maximum gage height, 69.45 ft, Jan. 27, 1937, present datum; minimum daily discharge determined, 3,200 ft³/s, Sept. 6, 13, Nov. 2, 1934, Oct. 3, 1935, Oct. 1, 1937.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 388,000 ft³/s, Nov. 30; maximum gage height, 49.59 ft, Nov. 30; minimum discharge, not determined; minimum gage height, 24.64 ft, July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	372000	---	57000	120000	---	---	---	53800		---
2		---	272000	---	55000	100000	---	---	---	90000		---
3		---	253000	---	78000	89000	---	---	---	144000		---
4		53200	237000	---	130000	82000	---	---	---	134000		---
5		177000	196000	---	210000	76000	---	---	---	119000		---
6		256000	176000	---	270000	68000	---	---	---	82200		---
7		279000	166000	---	310000	64000	---	---	---	---		---
8		280000	138000	---	330000	64000	---	---	63800	---		---
9		259000	119000	---	280000	55000	---	---	58000	---		---
10		163000	104000	---	235000	53000	---	---	58100	62800		---
11		112000	102000	---	181000	72000	---	---	51400	58000		---
12		145000	130000	---	165000	110000	---	---	60900	84000		---
13		167000	180000	---	150000	160000	---	---	87500	76000		---
14		188000	270000	---	125000	242000	---	---	110000	70000		---
15		178000	280000	---	110000	247000	---	---	98300	64000		---
16		175000	215000	---	96000	298000	---	---	73200	54000		---
17		200000	180000	---	92300	310000	---	---	71700	---		---
18		223000	140000	---	147000	250000	58000	---	75900	---		---
19		232000	120000	---	300000	190000	66000	---	74600	---		---
20		195000	95000	62000	310000	190000	75000	---	61600	---		---
21		156000	80000	123000	280000	157000	69000	76600	61100	57700		---
22		128000	68000	157000	250000	142000	62000	83100	---	66400		---
23		115000	56000	188000	220000	120000	82000	76600	---	65000		---
24		122000	50000	181000	200000	90000	86000	---	---	66000		---
25		120000	54000	176000	190000	79000	85000	---	---	50000		---
26		110000	50000	166000	185000	67000	79000	---	---	---		---
27		150000	---	130000	160000	65000	65000	---	---	---		---
28		200000	---	105000	135000	54000	---	---	---	---		---
29		300000	---	83000	---	---	---	---	---	---		---
30		388000	---	65000	---	---	---	---	---	---		56600
31		---	---	59000	---	---	---	---	---	---		---
TOTAL		---	---	---	5251300	---	---	---	---	---		---
MEAN		---	---	---	187500	---	---	---	---	---		---
MAX		---	---	---	330000	---	---	---	---	---		---
MIN		---	---	---	55000	---	---	---	---	---		---

TWELVEPOLE CREEK BASIN

03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, WV

LOCATION.--Lat 38°01'02", long 82°17'46", Wayne County, Hydrologic Unit 05090102, on left bank 0.2 mi upstream from Maynard Branch, 0.9 mi downstream from McComas Branch, 1.5 mi upstream from Devilstrace Branch, and 7.5 mi east of Dunlow, and at mile 60.2.

DRAINAGE AREA.--38.5 mi².

PERIOD OF RECORD.--October 1964 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 710.00 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 22, 1964, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 13-19, Dec. 20, and Feb. 14-16. Records fair except for period of estimated record, Oct. 13-19, and periods with ice effect, Dec. 20, and Feb. 14-16, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--22 years, 52.9 ft³/s, 18.66 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,040 ft³/s, Dec. 9, 1978, gage height, 15.84 ft, from rating curve extended above 1,300 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 0.01 ft³/s, July 2-13, 1966, Sept. 18-28, 1967, Sept. 8, 9, 1973; minimum gage height, 4.44 ft, Sept. 26, 27, 1967.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 840 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 28	2230	*1,690	*11.26	Feb. 17	2030	1,150	10.15

Minimum discharge, 0.21 ft³/s, Aug. 17; minimum gage height, 4.56 ft, Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	1.6	101	14	39	73	16	15	12	6.4	.85	.60
2	13	3.2	70	11	42	67	15	13	16	53	.76	.94
3	5.8	3.5	45	13	71	62	14	11	11	18	.60	17
4	3.7	18	35	11	162	53	14	10	8.3	7.9	.53	7.7
5	2.7	124	33	11	155	46	13	9.2	7.3	5.6	.46	4.9
6	2.0	108	38	9.2	150	46	13	8.9	6.6	4.4	.39	3.0
7	1.6	49	33	9.2	235	41	14	8.3	7.3	3.5	.32	2.0
8	1.3	27	32	6.2	164	34	12	20	26	2.7	.32	1.4
9	.97	18	30	6.0	118	34	12	12	20	6.2	.46	1.1
10	.49	14	27	6.4	91	33	12	8.9	37	18	.68	.87
11	.95	15	29	7.7	78	54	11	7.9	110	26	1.6	.92
12	1.6	17	52	8.3	58	58	10	7.7	61	150	2.3	5.6
13	1.7	14	269	8.9	45	60	9.6	8.3	35	147	1.1	4.6
14	1.8	13	208	8.1	44	82	8.9	17	22	92	.60	2.0
15	2.0	11	127	7.7	42	141	8.9	16	16	42	.32	1.2
16	3.0	10	90	6.8	37	119	9.6	11	11	24	.26	.86
17	2.7	12	66	7.7	356	96	10	9.6	8.5	16	.39	.71
18	2.4	9.6	47	9.2	351	78	10	9.6	6.8	10	.53	.63
19	2.2	8.7	33	11	216	67	8.3	24	5.6	7.9	.39	1.4
20	2.1	8.1	30	12	141	52	8.1	165	5.3	6.6	6.2	2.7
21	14	7.4	26	11	107	40	15	86	4.7	5.5	5.5	2.6
22	13	77	22	47	94	33	19	53	3.7	4.9	1.8	1.9
23	5.9	62	26	62	92	30	17	36	3.0	3.8	.94	1.3
24	5.6	38	23	52	95	27	16	26	3.0	3.1	13	2.8
25	6.9	28	19	52	96	23	16	20	2.3	2.7	4.4	4.1
26	5.1	41	13	78	92	21	17	19	1.9	2.3	1.8	2.9
27	3.7	387	17	73	92	24	21	19	1.5	2.0	1.4	2.8
28	2.9	672	16	92	80	20	18	21	2.7	1.8	2.3	4.9
29	2.3	692	13	105	---	18	17	20	14	1.5	2.5	4.4
30	2.0	166	11	72	---	18	15	18	4.4	1.3	1.1	2.6
31	1.7	---	14	43	---	17	---	14	---	1.0	.60	---
TOTAL	120.01	2655.1	1595	871.4	3343	1567	400.4	724.4	473.9	677.1	54.40	90.43
MEAN	3.87	88.5	51.5	28.1	119	50.5	13.3	23.4	15.8	21.8	1.75	3.01
MAX	14	692	269	105	356	141	21	165	110	150	13	17
MIN	.49	1.6	11	6.0	37	17	8.1	7.7	1.5	1.0	.26	.60
CFSM	.10	2.30	1.34	.73	3.09	1.31	.35	.61	.41	.57	.05	.08
IN.	.12	2.57	1.54	.84	3.23	1.51	.39	.70	.46	.65	.05	.09

CAL YR 1985	TOTAL	17798.10	MEAN 48.8	MAX 725	MIN .30	CFSM 1.27	IN 17.20
WTR YR 1986	TOTAL	12572.14	MEAN 34.4	MAX 692	MIN .26	CFSM .89	IN 12.15

TWELVEPOLE CREEK BASIN

03206790 EAST FORK TWELVEPOLE CREEK BELOW EAST LYNN DAM, WV

LOCATION.--Lat 38°08'52", long 82°23'00", Wayne County, Hydrologic Unit 05090102, on left bank 800 ft downstream from Laurel Creek, 1,700 ft downstream from East Lynn Dam, 1.4 mi south of East Lynn, and at mile 41.7.

DRAINAGE AREA.--138 mi².

PERIOD OF RECORD.--June 1962 to September 1982, October 1982 to September 1986 (discontinued), (gage height, discharge measurements and annual maximum discharge only). Prior to October 1967 published as near East Lynn.

GAGE.--Water-stage recorder. Datum of gage is 610.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1981, at datum 10.00 ft lower. Prior to Oct. 1, 1967, water-stage recorder at site 0.7 mi downstream.

REMARKS.--Records for winter periods not adjusted for ice effect. Flow regulated since March 1972 by East Lynn Lake.

AVERAGE DISCHARGE.--20 years (water years 1963-82), 177 ft³/s, 17.42 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,960 ft³/s, Mar. 12, 1968, gage height, 31.50 ft datum then in use, from floodmarks; no flow, Sept. 10-27, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known since at least 1913, about 13,000 ft³/s, Feb. 3, 1939, gage height, about 37 ft datum then in use, from floodmarks, from rating curve based on conveyance-slope study. Flood of Feb. 28, 1962, reached a stage of 36.25 ft, datum then in use, from floodmarks, discharge, about 12,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,290 ft³/s, Dec. 2, gage height, 11.77 ft; minimum gage height, 0.83 ft, June 10.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.63	2.41	3.69	2.09	3.20	3.81	1.61	1.28	1.87	1.51	1.48	1.47
2	1.64	2.87	11.09	2.09	2.83	3.53	1.53	1.26	1.87	1.62	1.48	1.47
3	1.62	2.83	11.54	2.09	2.88	3.53	1.53	1.31	1.98	1.51	1.48	1.48
4	1.63	2.86	11.32	2.09	4.78	3.52	1.52	1.34	2.01	1.49	1.48	1.49
5	1.66	4.49	9.04	2.09	6.09	3.01	1.52	1.34	2.01	1.49	1.48	1.48
6	1.67	5.46	4.45	2.09	4.91	2.80	1.51	1.32	1.87	1.49	1.48	1.48
7	1.66	3.87	3.52	2.09	6.46	3.03	1.52	1.32	1.70	1.49	1.49	1.48
8	1.66	3.18	3.22	2.08	6.07	3.12	1.52	1.59	1.70	1.49	1.49	1.49
9	1.67	3.13	2.79	2.08	4.59	2.89	1.52	1.49	1.46	1.58	1.49	1.48
10	1.67	3.05	2.79	1.81	3.85	2.80	1.53	1.39	1.62	1.61	1.50	1.49
11	1.67	2.95	2.78	1.69	3.35	2.81	1.53	1.46	2.43	1.63	1.51	1.50
12	1.69	3.42	2.78	1.69	3.57	3.05	1.52	1.63	3.14	2.03	1.50	1.53
13	1.70	3.19	2.77	1.69	3.56	3.43	1.52	1.60	3.22	2.89	1.49	1.53
14	1.70	2.86	2.38	1.69	2.58	3.60	1.47	1.76	3.14	4.04	1.49	1.52
15	1.71	2.80	3.00	1.68	2.83	4.32	1.45	1.69	2.52	4.19	1.48	1.52
16	1.71	2.76	3.89	1.68	3.63	4.56	1.46	1.58	1.97	2.72	1.49	1.53
17	1.71	2.79	3.70	1.68	5.09	4.80	1.47	1.51	1.77	2.03	1.49	1.53
18	1.70	2.79	7.00	1.69	5.99	4.73	1.46	1.48	1.70	2.02	1.49	1.53
19	1.70	2.76	2.78	1.90	9.44	3.80	1.45	1.53	1.66	2.02	1.48	1.54
20	1.71	2.76	2.78	2.18	11.13	3.33	1.36	1.74	1.52	1.87	1.48	1.54
21	1.83	2.80	2.58	2.20	7.67	3.10	1.39	1.58	1.48	1.78	1.47	1.55
22	1.79	4.18	2.35	3.01	3.55	2.74	1.71	1.93	1.48	1.57	1.47	1.56
23	1.78	5.11	2.35	4.89	3.91	2.59	1.60	2.61	1.48	1.47	1.47	1.52
24	1.80	4.65	2.35	4.37	4.10	2.59	1.55	2.71	1.48	1.47	1.48	1.46
25	1.81	3.23	2.35	3.55	4.10	2.58	1.50	2.70	1.48	1.47	1.47	1.48
26	1.81	3.08	2.34	3.59	4.40	2.58	1.50	2.51	1.48	1.47	1.47	1.46
27	1.80	4.11	2.34	3.57	4.20	2.01	1.50	2.22	1.48	1.47	1.47	1.57
28	1.80	3.07	2.34	3.54	4.06	1.76	1.51	1.72	1.49	1.47	1.47	1.54
29	1.80	2.28	2.24	3.52	---	1.76	1.56	1.63	1.49	1.47	1.47	1.47
30	1.80	1.84	2.09	3.52	---	1.75	1.47	1.62	1.49	1.48	1.47	1.48
31	1.80	---	2.09	3.52	---	1.75	---	1.81	---	1.48	1.47	---
MEAN	1.72	3.25	3.96	2.50	4.74	3.09	1.51	1.70	1.87	1.85	1.48	1.51
MAX	1.83	5.46	11.54	4.89	11.13	4.80	1.71	2.71	3.22	4.19	1.51	1.57
MIN	1.62	1.84	2.09	1.68	2.58	1.75	1.36	1.26	1.46	1.47	1.47	1.46

WTR YR 1986 MEAN 2.42 MAX 11.54 MIN 1.26

TWELVEPOLE CREEK BASIN

03207057 BEECH FORK BELOW BEECH FORK DAM, WV

LOCATION.--Lat 38°18'18", long 82°25'28", Wayne County, Hydrologic Unit 05090102, on left bank 2,500 ft downstream from Beech Fork Dam, and 1.7 mi southeast of Lavalette and at mile 3.0.

DRAINAGE AREA.--79.2 mi².

PERIOD OF RECORD.--July 1976 to September 1982, October 1982 to September 30, 1986 (discontinued), (gage heights and annual maximum discharge only).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 549.54 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to June 12, 1979, at datum 0.46 ft higher.

REMARKS.--Records for winter periods not adjusted for ice effect. Flow regulated since January 1978 by Beech Fork Lake.

AVERAGE DISCHARGE.--6 years (water years 1977-82), 91.3 ft³/s, 15.65 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,840 ft³/s, Apr. 5, 1977, gage height, 10.29 ft; minimum discharge, 0.02 ft³/s, July 20, 1977; minimum gage height, 0.04 ft, July 21, 22, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,360 ft³/s, Feb. 19, gage height, 8.23 ft; minimum gage height, 0.38 ft, May 10.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.55	1.70	2.35	.86	.85	2.25	.65	.58	.50	.74	.49	.46
2	.53	2.26	5.10	.86	.84	2.20	.53	.56	.53	.88	.50	.56
3	.50	2.27	6.35	.86	1.82	2.31	.54	.52	.53	.53	.51	.58
4	.46	3.29	6.91	.86	3.12	1.94	.54	.52	.52	.50	.51	.59
5	.55	3.90	6.87	.86	3.53	1.73	.59	.54	.51	.49	.48	.57
6	.51	3.81	4.41	.86	2.65	1.92	.59	.60	.51	.56	.50	.52
7	.60	3.71	1.73	.86	2.84	1.76	.59	.57	.52	.47	.54	.50
8	.62	3.41	1.73	.80	3.02	1.51	.62	.55	.53	.46	.55	.53
9	.60	3.36	1.71	.72	2.97	1.50	.63	.51	.54	.50	.52	.57
10	.59	3.32	1.52	.67	2.68	1.48	.56	.42	.57	.53	.55	.56
11	.61	3.21	1.33	.62	2.05	2.38	.51	.50	.57	.54	.57	.57
12	.59	2.91	2.66	.62	1.85	2.55	.51	.55	.58	.53	.54	.54
13	.60	2.72	3.75	.62	1.57	2.29	.51	.51	.56	.59	.54	.47
14	.61	2.21	3.76	.62	1.60	1.94	.51	.75	.55	.56	.54	.45
15	.65	2.05	3.72	.61	1.63	1.97	.56	.53	.56	.54	.51	.52
16	.66	2.04	3.55	.61	1.67	2.53	.56	.51	.54	.56	.56	.55
17	.69	1.87	2.30	.62	3.32	2.82	.56	.51	.53	.55	.58	.56
18	.64	2.17	1.44	.62	4.03	2.64	.56	.52	.53	.52	.55	.56
19	.58	2.56	1.32	.65	5.72	1.68	.56	.73	.53	.58	.49	.56
20	.69	2.44	.95	.67	8.02	1.03	.57	.67	.53	.60	.52	.56
21	.70	2.11	.95	1.37	5.22	.79	.62	.60	.54	.62	.62	.57
22	.62	2.64	.95	2.67	2.36	.79	.61	.57	.54	.62	.61	.57
23	.59	3.30	1.47	4.08	1.91	.78	.59	.53	.53	.63	.59	.54
24	.65	3.07	1.19	2.79	2.73	.77	.59	.52	.53	.55	.55	.62
25	.75	2.80	.84	1.69	3.31	.76	.59	.53	.53	.52	.48	.53
26	.77	2.57	.83	1.73	3.02	.75	.60	.52	.52	.58	.49	.54
27	.77	2.00	.83	1.95	2.24	.75	.61	.52	.52	.59	.51	.53
28	.77	1.27	.83	2.42	2.60	.74	.61	.53	.51	.58	.51	.50
29	.78	.97	.83	1.99	---	.74	.59	.53	.50	.54	.50	.49
30	.78	.88	.85	1.66	---	.74	.59	.50	3.83	.50	.47	.51
31	.78	---	.86	1.14	---	.73	---	.48	---	.50	.40	---
MEAN	.64	2.56	2.38	1.22	2.83	1.57	.58	.55	.64	.56	.53	.54
MAX	.78	3.90	6.91	4.08	8.02	2.82	.65	.75	3.83	.88	.62	.62
MIN	.46	.88	.83	.61	.84	.73	.51	.42	.50	.46	.40	.45

WTR YR 1986 MEAN 1.21 MAX 8.02 MIN .40

BIG SANDY RIVER BASIN

03212750 TUG FORK AT WELCH, WV

LOCATION.--Lat 37°26'28", long 81°36'00", McDowell County, Hydrologic Unit 05070201, on left bank at bridge in the Hemphill section of Welch, 20 ft downstream from Mod Branch at mile 131.5.

DRAINAGE AREA.--174 mi².

PERIOD OF RECORD.--January 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,268.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges for period Jan. 29 to Sept. 30, 1985. Records good. Estimated daily discharges for the 1986 water year: Nov. 4-6. Records good. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,930 ft³/s, Feb. 1, 1985, gage height, 9.06 ft; minimum, 27 ft³/s, Sept. 30, 1985, gage height, 2.60 ft.

EXTREMES FOR CURRENT YEAR.--

WATER YEAR 1985.--Maximum discharge during period January to September, 2,930 ft³/s, Feb. 1, gage height, 9.06 ft; minimum, 27 ft³/s, Sept. 30, gage height, 2.60 ft.

WATER YEAR 1986.--Maximum discharge, 1,310 ft³/s, gage height, 6.58 ft; minimum, 28 ft³/s, Oct. 29, gage height, 2.61 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	1960	356	210	123	165	107	274	66
2				---	1300	317	200	129	158	109	215	62
3				---	692	285	196	170	151	117	126	61
4				---	478	271	188	134	175	106	106	61
5				---	404	258	177	129	170	103	95	68
6				---	451	230	186	123	192	102	94	73
7				---	418	217	177	119	172	102	112	72
8				---	349	225	177	119	161	98	217	69
9				---	299	242	172	113	148	95	117	63
10				---	271	221	166	112	155	106	99	56
11				---	253	235	166	110	186	132	95	53
12				---	317	245	163	112	314	102	88	59
13				---	274	237	163	113	261	98	83	59
14				---	242	235	163	134	192	109	80	59
15				---	225	217	161	163	163	92	76	63
16				---	210	208	196	190	151	117	81	49
17				---	204	208	185	168	166	94	91	47
18				---	196	200	168	181	156	86	102	43
19				---	204	190	165	186	139	83	91	43
20				---	219	185	168	158	132	83	78	45
21				---	253	181	165	155	126	83	77	46
22				---	327	188	160	150	123	85	82	46
23				---	522	192	151	490	120	81	71	45
24				---	581	210	148	816	119	78	70	43
25				---	539	221	147	726	115	83	83	39
26				---	522	210	140	422	116	102	80	40
27				---	455	206	142	282	109	179	79	49
28				---	397	204	142	223	107	113	63	39
29				105	---	200	132	200	106	94	60	38
30				95	---	192	128	179	107	94	65	32
31				160	---	202	---	170	---	106	73	---
TOTAL				---	12562	6988	5002	6599	4655	3139	3123	1588
MEAN				---	449	225	167	213	155	101	101	52.9
MAX				---	1960	356	210	816	314	179	274	73
MIN				---	196	181	128	110	106	78	60	32
CFSM				---	2.58	1.29	.96	1.22	.89	.58	.58	.30
IN.				---	2.69	1.49	1.07	1.41	1.00	.67	.67	.34

BIG SANDY RIVER BASIN

03212750 TUG FORK AT WELCH, WV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	37	271	82	110	314	185	123	158	110	78	78
2	43	36	200	78	215	294	181	117	148	155	78	102
3	40	39	153	81	404	282	177	113	143	105	78	110
4	39	136	131	80	611	255	173	109	183	91	76	95
5	43	196	123	82	400	240	170	107	240	85	73	94
6	47	125	123	73	314	227	168	109	166	81	82	86
7	38	86	109	77	901	221	173	103	165	78	77	75
8	38	64	106	61	577	206	161	240	160	75	71	69
9	36	53	103	63	400	214	156	185	142	96	70	63
10	35	50	95	66	320	210	155	155	131	274	72	61
11	35	49	92	68	280	221	151	140	132	277	92	60
12	39	46	102	66	237	212	150	134	126	212	81	76
13	35	40	117	69	210	219	148	589	120	240	60	64
14	38	39	147	63	200	362	145	891	119	165	53	59
15	45	40	143	65	194	994	143	602	116	137	53	55
16	48	40	131	60	190	651	145	411	109	117	61	53
17	39	44	115	62	356	510	143	327	105	116	78	53
18	33	39	106	65	789	433	143	277	102	106	94	50
19	36	39	91	92	688	397	140	339	99	102	90	77
20	37	38	94	116	872	349	134	502	96	99	86	76
21	50	36	94	102	633	305	145	407	96	96	78	72
22	55	81	82	122	543	282	143	327	96	91	65	63
23	40	85	95	145	564	269	136	274	92	105	63	63
24	38	64	90	132	518	253	136	242	92	90	85	83
25	38	55	88	125	440	235	134	221	90	98	65	75
26	37	52	75	137	383	227	177	204	86	88	60	66
27	38	160	83	126	376	227	185	202	86	85	69	65
28	37	296	77	95	339	215	173	192	86	82	153	77
29	33	707	77	116	---	206	142	183	88	78	102	68
30	34	327	70	107	---	202	128	172	87	78	73	61
31	37	---	75	99	---	192	---	165	---	78	66	---
TOTAL	1222	3099	3458	2775	12064	9424	4640	8162	3659	3690	2382	2149
MEAN	39.4	103	112	89.5	431	304	155	263	122	119	76.8	71.6
MAX	55	707	271	145	901	994	185	891	240	277	153	110
MIN	33	36	70	60	110	192	128	103	86	75	53	50
CFSM	.23	.59	.64	.51	2.48	1.75	.89	1.51	.70	.68	.44	.41
IN.	.26	.66	.74	.59	2.58	2.01	.99	1.74	.78	.79	.51	.46
WTR YR 1986	TOTAL	56724	MEAN	155	MAX	994	MIN	33	CFSM	.89	IN	12.13

BIG SANDY RIVER BASIN

03212980 DRY FORK AT BEARTOWN, WV

LOCATION.--Lat $37^{\circ}23'43''$, long $81^{\circ}48'10''$, McDowell County, Hydrologic Unit 05070201, on left bank 20 ft upstream from bridge on State Highway 80/3, .4 mi upstream from Grapevine Branch, at mile 7.1.

DRAINAGE AREA.--209 mi².

PERIOD OF RECORD.--February 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,056.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges for period February to September 1985. Records fair. Estimated daily discharges for the 1986 water year: Jan. 10-11. Records fair. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,540 ft³/s, May 13, 1986, gage height, 6.91 ft; minimum, 20 ft³/s, several days during October 1985, gage height, 2.35 ft.

EXTREMES FOR CURRENT YEAR.--

WATER YEAR 1985.--Maximum discharge during period February to September, 1,180 ft³/s, May 25, gage height, 5.21 ft; minimum, 22 ft³/s, Sept. 10, gage height, 2.36 ft.

WATER YEAR 1986.--Maximum discharge, 2,540 ft³/s, May 13, gage height, 6.91 ft; minimum, 20 ft³/s, several days during October, gage height, 2.35 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	314	221	94	110	58	317	38
2					---	287	204	102	99	54	374	32
3					---	246	199	153	95	50	142	28
4					---	221	181	123	103	49	86	28
5					---	226	170	107	142	47	62	27
6					---	192	175	101	160	46	54	26
7					---	167	156	96	146	44	57	28
8					---	172	164	91	124	43	55	25
9					---	199	159	80	103	42	51	26
10					---	182	154	78	97	47	43	24
11					286	190	148	81	140	55	39	31
12					322	208	159	75	174	49	36	29
13					269	192	154	72	170	58	34	26
14					221	200	148	67	121	66	35	27
15					210	191	151	99	97	52	33	27
16					183	176	192	241	83	71	32	25
17					196	171	198	218	125	53	59	26
18					178	165	184	243	103	47	76	27
19					208	151	181	196	85	46	89	26
20					252	145	170	139	77	40	55	25
21					324	136	159	126	72	42	45	26
22					436	153	149	104	67	38	43	25
23					680	168	141	234	60	37	38	24
24					642	204	131	880	58	41	34	25
25					506	280	121	885	58	38	43	24
26					457	275	112	449	57	48	39	25
27					416	242	106	275	54	104	40	28
28					354	236	108	194	51	89	32	28
29					---	216	106	185	52	56	29	27
30					---	204	96	145	55	45	33	24
31					---	192	---	122	---	51	39	---
TOTAL					---	6301	4697	6055	2938	1606	2144	807
MEAN					---	203	157	195	97.9	51.8	69.2	26.9
MAX					---	314	221	885	174	104	374	38
MIN					---	136	96	67	51	37	29	24
CFSM					---	.97	.75	.93	.47	.25	.33	.13
IN.					---	1.12	.84	1.08	.52	.29	.38	.14

BIG SANDY RIVER BASIN

03212980 DRY FORK AT BEARTOWN, WV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	26	530	65	118	339	144	97	220	59	46	51
2	28	36	333	63	322	329	137	92	175	72	45	63
3	28	34	206	68	608	323	135	86	154	82	42	75
4	26	124	149	70	914	312	129	80	139	60	40	60
5	25	304	130	69	606	249	122	80	137	52	37	73
6	26	163	121	62	445	227	118	81	126	50	34	73
7	22	105	101	63	1220	216	138	79	133	49	37	55
8	23	73	89	53	821	193	130	242	144	48	41	49
9	21	53	86	46	516	191	125	277	159	55	41	45
10	20	44	83	50	386	190	121	192	130	140	34	38
11	23	37	83	56	334	202	115	149	130	327	54	37
12	24	33	93	57	258	194	109	135	113	236	53	52
13	23	30	106	58	207	209	102	1230	100	196	42	47
14	22	32	173	54	191	312	101	1560	91	262	35	43
15	24	33	199	53	194	1360	104	818	82	134	41	41
16	28	32	171	48	178	930	104	503	79	99	43	36
17	28	32	142	48	575	640	99	425	76	82	36	36
18	23	31	117	49	1500	485	93	508	75	75	40	33
19	23	28	87	61	1060	419	91	410	73	66	45	54
20	24	26	89	96	1410	349	84	801	71	58	51	57
21	32	25	81	92	890	283	90	645	66	54	48	43
22	35	64	60	104	655	239	97	466	63	55	44	39
23	32	99	86	157	649	220	92	357	59	52	43	41
24	29	78	85	162	578	200	85	281	60	57	66	61
25	26	58	82	152	479	184	82	231	69	66	57	64
26	27	49	64	157	408	175	92	201	61	59	44	54
27	26	133	70	154	402	182	116	189	56	52	44	49
28	23	414	63	107	365	165	115	219	53	49	112	68
29	21	1060	64	145	---	154	114	341	55	46	91	61
30	21	625	60	128	---	145	107	639	56	44	57	51
31	26	---	61	105	---	143	---	319	---	45	44	---
TOTAL	782	3881	3864	2652	16289	9759	3291	11733	3005	2781	1487	1549
MEAN	25.2	129	125	85.5	582	315	110	378	100	89.7	48.0	51.6
MAX	35	1060	530	162	1500	1360	144	1560	220	327	112	75
MIN	20	25	60	46	118	143	82	79	53	44	34	33
CFSM	.12	.62	.60	.41	2.79	1.51	.53	1.81	.48	.43	.23	.25
IN.	.14	.69	.69	.47	2.90	1.74	.59	2.09	.53	.49	.26	.28

WTR YR 1986 TOTAL 61073 MEAN 167 MAX 1560 MIN 20 CFSM .80 IN 10.87

BIG SANDY RIVER BASIN

03213000 TUG FORK AT LITWAR, WV

LOCATION.--Lat 37°29'08", long 81°50'38", McDowell County, Hydrologic Unit 05070201, on left bank 200 ft downstream from War Branch, 0.5 mi downstream from Litwar, 2.2 mi northwest of Iaeger, 2.7 mi downstream from Dry Fork, and at mile 106.1.

DRAINAGE AREA.--504 mi².

PERIOD OF RECORD.--May 1930 to September 1984, October 1984 to September 1986 (discontinued) (gage heights and annual maximum discharge only).

REVISED RECORDS.--WSP 728: 1931. WSP 1335: 1930, 1931-35(M), 1937, 1943-46, 1947(M), 1948, 1949(P), 1950, 1952-53, WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 936.36 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 16, 1942, nonrecording gage at highway bridge 0.5 mi upstream at same datum.

REMARKS.--Records for winter periods not adjusted for ice effect. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--54 years (water years 1931-84), 556 ft³/s, 14.98 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,500 ft³/s, Apr. 4, 1977, gage height, 27.37 ft; minimum observed, 11 ft³/s, Oct. 3, 4, 7, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,710 ft³/s, Nov. 29, gage height, 6.58 ft; minimum gage height observed, 0.73 ft, Oct. 15, but may have been lower during other periods.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	2.69	1.21	1.52	2.30	1.64	1.50	1.81	1.25	1.03	1.07
2	---	---	1.95	1.21	2.17	2.24	1.62	1.46	1.70	1.52	1.02	1.20
3	---	---	---	1.22	3.01	2.19	1.61	1.41	1.63	1.42	1.00	1.30
4	---	1.36	---	1.23	3.64	2.11	1.59	1.38	1.57	1.22	.99	1.25
5	---	2.14	---	1.23	3.07	2.02	1.56	1.36	1.78	1.14	.99	1.30
6	---	1.81	---	1.20	2.64	1.99	1.54	1.36	1.64	1.11	1.00	1.26
7	---	1.48	---	1.18	3.95	1.96	1.61	1.35	1.62	1.07	1.02	1.12
8	---	1.25	---	1.06	3.52	1.87	1.57	2.08	1.65	1.06	.99	1.04
9	---	1.08	---	.99	2.87	1.84	1.55	2.21	1.63	1.08	.98	1.00
10	---	1.00	---	1.10	2.53	1.82	1.54	1.91	1.53	1.61	.97	.95
11	---	.94	---	1.11	2.34	1.88	1.52	1.73	1.50	2.52	1.04	.93
12	---	.91	---	1.13	2.14	1.88	1.49	1.64	1.49	1.96	1.19	1.05
13	---	---	1.48	1.14	1.98	1.92	1.47	3.19	1.42	2.13	1.01	1.05
14	---	---	1.69	1.09	1.90	2.15	1.46	4.43	1.38	1.95	.91	.96
15	---	---	1.84	1.09	1.91	4.18	1.46	3.37	1.34	1.60	.90	.94
16	---	---	1.75	1.04	1.83	3.64	1.47	2.75	1.32	1.43	.93	.90
17	---	.90	1.67	1.03	2.56	3.04	1.49	2.45	1.29	1.35	1.02	.88
18	---	---	1.56	1.04	4.38	2.69	1.46	2.52	1.27	1.27	1.05	.88
19	---	---	1.40	1.13	3.75	2.52	1.45	2.36	1.25	1.24	1.20	.96
20	---	---	1.37	1.38	4.22	2.34	1.42	3.03	1.24	1.18	1.10	1.13
21	---	---	1.35	1.39	3.51	2.17	1.46	2.85	1.22	1.16	1.16	1.15
22	.95	---	1.21	1.41	3.11	2.05	1.49	2.53	1.20	1.14	1.04	1.12
23	.90	1.53	1.36	1.66	3.25	1.99	1.47	2.29	1.18	1.12	.98	1.10
24	---	1.34	1.32	1.75	3.08	1.93	1.43	2.12	1.23	1.15	1.14	1.30
25	---	1.17	1.29	1.69	2.81	1.86	1.43	2.00	1.21	1.18	1.12	1.28
26	---	1.08	1.09	1.72	2.58	1.82	1.53	1.90	1.16	1.16	1.01	1.20
27	---	1.70	1.22	1.76	2.53	1.83	1.71	1.89	1.15	1.10	.96	1.13
28	---	2.67	1.23	1.53	2.41	1.78	1.69	1.86	1.14	1.07	1.31	1.18
29	---	5.32	1.16	1.65	---	1.72	1.64	2.06	1.13	1.05	1.44	1.20
30	---	3.12	1.10	1.65	---	1.69	1.56	2.36	1.16	1.02	1.15	1.14
31	---	---	1.12	1.50	---	1.66	---	2.01	---	1.02	1.02	---
MEAN	---	---	---	1.31	2.83	2.16	1.53	2.17	1.39	1.33	1.05	1.10
MAX	---	---	---	1.76	4.38	4.18	1.71	4.43	1.81	2.52	1.44	1.30
MIN	---	---	---	.99	1.52	1.66	1.42	1.35	1.13	1.02	.90	.88

BIG SANDY RIVER BASIN

03213500 PANTHER CREEK NEAR PANTHER, WV

LOCATION.--Lat 37°26'42", long 81°52'15", McDowell County, Hydrologic Unit 05070201, on left bank 200 ft downstream from Cub Branch, 2.1 mi upstream from Trace Fork, 3.0 mi southwest of Panther, and at mile 4.2.

DRAINAGE AREA.--31.0 mi².

PERIOD OF RECORD.--July 1946 to September 1986 (discontinued).

REVISED RECORDS.--WSP 1505: 1955(P). WSP 1908: 1955(M), 1957(M).

GAGE.--Water-stage recorder. Altitude of gage is 1,050 ft, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 21-27, Nov. 8-21, 30, Dec. 1-13, Jan. 6-31, Feb. 1-28, Mar. 1-31, Apr. 1-29, and July 11-13. Records poor.

AVERAGE DISCHARGE.--40 years, 34.6 ft³/s, 15.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,600 ft³/s, Apr. 4, 1977, gage height, 12.10 ft, from floodmarks, from rating curve extended above 2,800 ft³/s on basis of slope-area measurement at gage height 10.67 ft; no flow at times during August and September 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Feb. 3	unknown	*unknown	*unknown	No other peak greater than base discharge.			

Minimum daily discharge, 1.0 ft³/s, Oct. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.1	60	7.2	15	43	12	7.4	9.3	2.4	1.4	3.3
2	2.3	3.6	38	7.7	45	40	11	7.2	8.0	6.9	1.3	4.0
3	1.9	3.0	25	8.6	200	37	12	6.6	7.2	4.6	1.3	2.9
4	1.6	19	18	8.9	160	34	12	6.1	6.4	2.6	1.3	3.2
5	1.7	27	17	9.3	35	32	11	5.9	5.9	2.1	1.3	6.6
6	2.0	18	15	8.8	20	30	11	6.1	5.7	1.9	1.3	4.0
7	1.6	12	13	8.0	68	29	10	5.9	6.1	1.7	1.3	2.6
8	1.3	10	12	7.2	60	28	9.8	31	7.7	1.6	1.3	1.8
9	1.2	7.2	11	6.6	46	28	9.6	16	7.7	2.3	1.2	1.7
10	1.2	6.0	10	7.4	40	27	9.2	13	5.9	25	1.2	1.4
11	1.1	4.8	10	8.0	33	28	8.8	11	5.4	38	2.4	1.3
12	1.1	4.4	11	8.4	28	30	8.6	10	7.4	25	3.5	3.2
13	1.1	4.2	13	8.0	26	37	8.4	181	5.4	29	1.9	3.0
14	1.1	3.9	19	7.4	24	48	8.4	166	4.2	14	1.4	2.0
15	1.2	3.7	26	7.0	22	130	9.0	76	3.8	9.6	1.3	1.6
16	1.9	4.5	32	6.8	20	90	9.6	52	3.3	6.9	1.3	1.4
17	1.3	4.1	27	6.6	70	66	10	37	3.0	5.2	1.2	1.3
18	1.2	3.8	21	7.0	180	50	9.2	27	2.7	4.0	1.3	1.3
19	1.1	3.6	17	7.8	120	37	8.8	25	2.6	3.5	2.3	2.4
20	1.1	3.5	15	9.0	170	29	8.4	40	2.4	3.0	2.4	3.0
21	4.0	3.4	13	11	90	24	9.0	36	2.3	2.9	1.9	2.1
22	2.8	13	14	11	74	22	11	27	2.2	2.5	1.4	1.7
23	2.0	17	13	13	72	20	10	22	2.1	2.3	1.3	2.0
24	1.7	12	9.9	16	64	19	9.8	18	2.3	2.1	4.4	8.6
25	1.6	7.2	8.6	15	58	18	10	15	1.8	2.0	3.0	5.4
26	1.5	3.6	8.0	15	54	17	11	14	1.9	2.0	1.7	3.6
27	1.4	22	7.7	14	47	18	10	15	1.9	2.2	1.7	4.4
28	1.3	65	6.9	13	45	16	9.0	13	1.9	2.4	4.2	11
29	1.2	90	6.1	15	---	15	8.5	15	2.0	1.9	3.5	6.1
30	1.0	72	5.7	14	---	13	7.7	13	2.0	1.6	2.1	4.2
31	1.1	---	5.7	13	---	12	---	10	---	1.4	1.6	---
TOTAL	47.9	452.6	508.6	305.7	1886	1067	292.8	928.2	130.5	212.6	58.7	101.1
MEAN	1.55	15.1	16.4	9.86	67.4	34.4	9.76	29.9	4.35	6.86	1.89	3.37
MAX	4.0	90	60	16	200	130	12	181	9.3	38	4.4	11
MIN	1.0	1.1	5.7	6.6	15	12	7.7	5.9	1.8	1.4	1.2	1.3
CFSM	.05	.49	.53	.32	2.17	1.11	.32	.97	.14	.22	.06	.11
IN.	.06	.54	.61	.37	2.26	1.28	.35	1.11	.16	.26	.07	.12

CAL YR 1985	TOTAL	7645.32	MEAN 20.9	MAX 420	MIN .92	CFSM .67	IN 9.17
WTR YR 1986	TOTAL	5991.70	MEAN 16.4	MAX 200	MIN 1.0	CFSM .53	IN 7.19

BIG SANDY RIVER BASIN

03213620 TUG FORK AT VULCAN, W. VA.

LOCATION.--Lat 37°33'06", long 82°07'28", Mingo County, Hydrologic Unit 05070201, on right bank at highway bridge at Vulcan, and 5.8 mi downstream from Knox Creek (Kentucky), and 1.9 mi upstream from Peter Creek, and at mile 78.7.

DRAINAGE AREA.--778 mi².

PERIOD OF RECORD.--February 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 695.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges for period February to September 1985. Records good. No estimated daily discharges for the 1986 water year. Records good. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,870 ft³/s, Nov. 29, 1985, gage height, 11.57 ft; minimum, 71 ft³/s, Oct. 20, 21, 1985, gage height, 1.01 ft.

EXTREMES FOR CURRENT YEAR.--

WATER YEAR 1985.--Maximum discharge during period February to September, 6,060 ft³/s, May 24, gage height, 9.56 ft; minimum, 79 ft³/s, Sept. 24, 26, 30, gage height, 1.06 ft.

WATER YEAR 1986.--Maximum discharge, 8,870 ft³/s, Nov. 29, gage height, 11.57 ft; minimum, 71 ft³/s, Oct. 20-21, gage height, 1.01 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	1340	952	359	524	247	741	140
2					---	1220	942	352	461	233	1510	131
3					---	1060	901	625	443	272	704	116
4					---	958	851	599	499	267	392	107
5					---	916	769	467	580	233	281	104
6					---	812	807	416	932	212	235	109
7					2400	713	736	378	774	223	506	149
8					1970	745	722	344	646	200	881	133
9					1550	1390	709	318	528	186	550	116
10					1320	1260	677	292	736	192	341	111
11					1180	1190	651	285	1100	328	252	113
12					1280	1320	638	283	1540	285	212	104
13					1300	1270	612	272	1620	237	188	102
14					1090	1180	608	252	1020	239	170	97
15					1000	1050	603	272	690	227	156	95
16					886	916	651	2320	535	247	155	98
17					906	856	713	1550	488	247	164	98
18					906	802	651	1410	625	198	212	91
19					1140	722	612	1120	467	171	227	88
20					1570	668	595	817	384	158	223	86
21					1810	629	580	891	336	156	177	84
22					2400	686	550	1040	301	173	149	83
23					3700	880	517	1560	283	153	144	84
24					3060	1120	495	4050	260	142	149	83
25					2280	1370	484	4780	249	140	166	83
26					1970	1280	458	2450	237	185	158	83
27					1750	1120	431	1470	227	495	151	86
28					1500	1040	440	1030	212	443	147	93
29					---	952	437	841	202	292	127	90
30					---	860	401	695	200	221	118	84
31					---	792	---	572	---	217	127	---
TOTAL					---	31117	19193	32110	17099	7219	9713	3041
MEAN					---	1004	640	1036	570	233	313	101
MAX					---	1390	952	4780	1620	495	1510	149
MIN					---	629	401	252	200	140	118	83
CFSM					---	1.29	.82	1.33	.73	.30	.40	.13
IN.					---	1.49	.92	1.54	.82	.35	.46	.15

BIG SANDY RIVER BASIN

03213620 TUG FORK AT VULCAN, W. VA.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	74	1910	274	546	1340	506	373	625	223	136	171
2	91	120	1450	285	1520	1260	488	352	517	484	136	227
3	115	155	1030	285	2980	1190	470	323	455	458	135	239
4	106	520	773	292	4150	1070	455	301	407	276	129	249
5	93	1630	659	292	2770	963	434	290	437	206	124	290
6	93	1320	690	267	1850	916	416	285	470	179	126	254
7	86	722	664	272	3490	881	455	290	413	166	127	215
8	88	428	603	215	3380	788	440	1320	484	155	138	170
9	81	290	550	198	2140	736	413	1360	461	155	127	145
10	79	223	484	225	1590	722	407	896	395	311	126	133
11	76	187	431	252	1340	802	398	673	346	1370	129	120
12	74	162	464	243	1090	831	378	677	352	841	168	135
13	76	149	783	241	911	876	362	3050	321	937	177	170
14	78	136	1150	235	817	1090	352	5490	285	682	129	145
15	78	129	1070	229	831	4500	344	2870	265	513	107	122
16	81	129	916	206	769	4040	352	1880	249	354	104	113
17	84	158	759	196	3080	2590	370	1570	237	285	129	106
18	88	155	625	196	6120	1890	352	1370	223	252	151	102
19	81	142	464	229	3880	1590	333	1130	215	221	158	131
20	73	131	413	346	4360	1340	321	1910	210	208	200	177
21	111	122	413	392	3260	1110	359	1910	204	198	168	196
22	153	422	333	458	2400	947	395	1450	196	185	164	153
23	138	881	378	764	2910	866	389	1150	188	175	135	145
24	118	584	381	831	2580	807	365	953	200	171	179	407
25	104	387	344	745	2060	731	354	802	214	179	194	279
26	91	304	247	793	1680	682	365	713	190	187	156	214
27	86	1280	274	886	1600	677	474	750	177	212	133	204
28	84	3660	306	668	1480	655	488	755	185	175	144	328
29	81	6480	281	668	---	587	455	817	171	156	297	276
30	78	2570	243	677	---	550	416	974	170	145	231	210
31	74	---	256	539	---	528	---	871	---	133	164	---
TOTAL	2818	23650	19344	12399	65584	37555	12106	37555	9262	10192	4721	5826
MEAN	90.9	788	624	400	2342	1211	404	1211	309	329	152	194
MAX	153	6480	1910	886	6120	4500	506	5490	625	1370	297	407
MIN	73	74	243	196	546	528	321	285	170	133	104	102
CFSM	.12	1.01	.80	.51	3.01	1.56	.52	1.56	.40	.42	.20	.25
IN.	.13	1.13	.92	.59	3.14	1.80	.58	1.80	.44	.49	.23	.28

WTR YR 1986 TOTAL 241012 MEAN 660 MAX 6480 MIN 73 CFSM .85 IN 11.52

BIG SANDY RIVER BASIN

03213700 TUG FORK AT WILLIAMSON, WV

LOCATION.--Lat 37°40'23", long 82°16'49", Pike County, Ky., Hydrologic Unit 05070201, on left bank at Williamson, 100 ft upstream from bridge on U.S. Highway 119, 0.8 mi downstream from Pond Creek, and at mile 56.5.

DRAINAGE AREA.--936 mi².

PERIOD OF RECORD.--October 1967 to current year. Gage-height records collected in this vicinity since 1926 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 620.90 ft, Ohio River Datum (levels by U.S. Army Corps of Engineers). Prior to Jan. 21, 1969, at datum 0.92 ft lower.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--19 years, 1,137 ft³/s, 16.50 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,000 ft³/s, Apr. 5, 1977, gage height, 52.56 ft, from floodmarks, from rating curve extended above 18,000 ft³/s; minimum discharge, 59 ft³/s, Oct. 18-20, 1969; minimum gage height, 1.73 ft, Nov. 1, 1985.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Jan. 30, 1957, Mar. 12, 1963, and Mar. 7, 1967, reached stages of 43.6 ft, 44.5 ft, and 40.7 ft respectively, from readings by National Weather Service.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 29	0700	*9,800	*18.29	No other peak greater than base discharge.			

Minimum discharge, 97 ft³/s, Nov. 1, gage height, 1.73 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	102	2500	382	704	1770	646	460	771	233	159	214
2	150	132	1930	382	1400	1630	624	425	639	490	161	274
3	142	198	1380	394	3380	1530	605	400	558	650	161	276
4	161	419	1030	403	5040	1390	583	370	510	388	154	281
5	138	2020	866	403	3820	1240	558	352	473	276	146	313
6	128	2130	882	385	2580	1160	537	343	594	229	144	305
7	123	1100	874	373	3530	1110	565	361	490	207	146	263
8	117	669	824	318	4440	1010	569	1330	583	193	152	214
9	114	457	763	284	2910	934	527	1640	613	193	157	180
10	107	346	688	305	2130	912	520	1090	537	266	152	163
11	105	294	628	326	1750	978	503	803	476	1250	176	150
12	104	256	669	329	1440	1040	486	747	431	1040	157	178
13	104	229	1250	332	1180	1060	467	2160	422	964	207	180
14	104	212	1770	308	1050	1250	447	5850	364	832	178	191
15	112	198	1480	316	1050	3990	434	3670	335	646	140	161
16	105	189	1240	274	1000	4940	438	2350	310	447	123	142
17	107	207	1030	281	3040	3380	460	1950	292	352	231	136
18	112	226	866	271	7390	2460	457	1610	274	302	226	128
19	114	207	696	310	5310	2010	422	1380	261	268	171	193
20	107	193	591	425	5250	1680	406	1830	253	248	217	205
21	167	180	583	506	4350	1380	447	2220	246	246	205	231
22	229	324	467	565	3180	1160	490	1710	241	226	196	200
23	196	1060	523	904	3510	1040	486	1340	231	207	178	246
24	180	824	541	1040	3390	973	463	1090	231	193	205	551
25	154	569	496	960	2840	895	444	921	256	205	224	422
26	136	447	346	1020	2310	832	438	824	236	205	207	292
27	125	1300	409	1150	2120	824	523	853	219	229	169	266
28	119	4160	441	951	1970	803	580	912	212	233	182	467
29	112	8290	394	795	---	739	551	895	221	191	226	406
30	109	3800	337	900	---	696	510	947	202	176	313	308
31	105	---	337	775	---	673	---	1120	---	163	217	---
TOTAL	4011	30738	26831	16367	82064	45489	15186	41953	11481	11748	5680	7536
MEAN	129	1025	866	528	2931	1467	506	1353	383	379	183	251
MAX	229	8290	2500	1150	7390	4940	646	5850	771	1250	313	551
MIN	104	102	337	271	704	673	406	343	202	163	123	128
CFSM	.14	1.10	.93	.56	3.13	1.57	.54	1.45	.41	.41	.20	.27
IN.	.16	1.22	1.07	.65	3.26	1.81	.60	1.67	.46	.47	.23	.30

CAL YR 1985 TOTAL 314617 MEAN 862 MAX 10400 MIN 99 CFSM .92 IN 12.50
WTR YR 1986 TOTAL 299084 MEAN 819 MAX 8290 MIN 102 CFSM .88 IN 11.89

BIG SANDY RIVER BASIN

03214500 TUG FORK AT KERMIT, WV

LOCATION.--Lat 37°50'16", long 82°24'32", Mingo County, Hydrologic Unit 05070201, behind fire station, at Kermit, 0.8 mi downstream from Wolf Creek, and at mile 34.9.

DRAINAGE AREA.--1,280 mi².

PERIOD OF RECORD.--June 1915 to December 1920, January 1929 to September 1934. Records published as near Kermit at different site and datum July 1934 to September 1985. Present site, February 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 574.74 (corrected) ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges due to indefinite stage-discharge relationship during highway bridge construction: Oct. 12-15, 27-30, Nov. 1, 8-17, Dec. 23-31, Jan. 1-22, 30-31, Feb. 1, Mar. 11-13, 29-31, Apr. 1-30, May 1-7, June 21-30, July 1, 15-31, Aug. 1-31, and Sept. 1-23. Period of no gage-height record, May 29-31, and June 1-20. A total of 198 days were estimated. Records fair above 2,000 ft³/s and poor below. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft³/s, Nov. 29, 1985, gage height, 26.62 ft; minimum daily discharge, 107 ft³/s, Oct. 14, 1985; minimum gage height, 1.99 ft, Sept. 26, 1985.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 6, 1977, reached a stage of 57.70 ft; May 8, 1984 was about 53.00 ft and Mar. 13, 1963 was about 50.40 ft; Jan. 30, 1957 was about 48.70 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 29	1100	*16,300	*26.62	Feb. 18	0900	12,600	22.56

Minimum daily discharge, 107 ft³/s, Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	150	3770	470	1100	2620	800	700	1050	320	240	280
2	325	194	2960	500	1370	2430	760	660	840	683	240	350
3	231	219	2160	500	3680	2280	720	630	730	828	230	390
4	212	465	1600	520	6450	2090	700	600	660	519	230	370
5	206	3280	1360	520	5550	1870	660	590	610	365	210	380
6	179	4300	1360	500	3820	1730	640	560	720	300	200	400
7	164	2390	1320	470	4360	1660	640	540	660	266	195	340
8	154	750	1260	440	6000	1500	660	1420	720	246	205	310
9	144	550	1160	340	4100	1380	620	2530	790	230	220	260
10	138	440	1040	370	3130	1330	610	1680	690	317	210	240
11	128	380	912	400	2620	1400	590	1080	680	1060	250	230
12	116	330	985	450	2160	1450	560	861	600	1670	250	240
13	115	300	2280	440	1730	1500	540	1870	550	1250	250	260
14	107	280	3440	410	1520	1670	520	6220	490	1120	270	260
15	113	270	2690	430	1460	4100	510	4880	450	800	220	240
16	122	260	2190	380	1460	6340	520	3330	410	640	200	220
17	114	280	1750	360	4560	4600	530	2680	390	480	180	200
18	110	306	1420	370	11900	3490	540	2240	380	420	370	180
19	112	296	1140	390	8210	2860	520	2060	350	380	270	260
20	114	278	969	500	6950	2380	500	2240	340	350	280	310
21	196	258	890	600	5920	1990	540	2920	330	625	310	300
22	430	294	800	740	4220	1640	580	2450	320	321	260	290
23	284	1020	760	1100	4220	1360	620	1960	310	300	270	270
24	256	1220	760	1390	4300	1230	670	1570	320	280	300	606
25	268	821	648	1310	3840	1100	650	1290	330	270	290	590
26	199	611	550	1530	3320	993	640	1120	330	270	280	380
27	180	1930	560	1800	3090	996	720	1050	310	280	260	307
28	170	6750	600	1710	2880	950	800	1300	300	310	280	893
29	160	14800	580	1250	---	920	780	1150	310	280	260	585
30	155	7440	600	1350	---	880	740	1200	310	260	380	429
31	150	---	500	1200	---	820	---	1400	---	250	330	---
TOTAL	5518	50862	43014	22740	113920	61559	18880	54781	15280	15690	7940	10370
MEAN	178	1695	1388	734	4069	1986	629	1767	509	506	256	346
MAX	430	14800	3770	1800	11900	6340	800	6220	1050	1670	380	893
MIN	107	150	500	340	1100	820	500	540	300	230	180	180
CFSM	.14	1.33	1.09	.58	3.19	1.56	.49	1.39	.40	.40	.20	.27
IN.	.16	1.49	1.26	.66	3.33	1.80	.55	1.60	.45	.46	.23	.30

WTR YR 1986 TOTAL 420554 MEAN 1152 MAX 14800 MIN 107 CFSM .90 IN 12.28

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEDUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)
01595200 STONY RIVER NEAR MOUNT STORM, WV (LAT 39 16 10N LONG 079 15 45W)							
OCT 1985							
04...	0940	4.1	--	--	12.5	--	--
DEC							
19...	1420	84	--	--	5.0	--	--
23...	1200	46	--	--	1.0	--	--
JAN 1986							
22...	1055	68	--	--	3.0	--	--
FEB							
18...	1000	246	--	--	2.5	--	--
MAR							
25...	1340	44	--	--	9.0	--	--
MAY							
12...	1150	28	--	--	9.0	--	--
JUL							
08...	1200	8.9	--	--	24.0	--	--
SEP							
10...	0950	3.2	--	--	12.5	--	--
01604500 PATTERSON CREEK NEAR HEADSVILLE, WV (LAT 39 26 35N LONG 078 49 20W)							
OCT 1985							
02...	0845	6.5	280	7.40	17.0	749	8.0
DEC							
17...	1610	351	175	7.60	4.0	741	12.5
JAN 1986							
15...	0925	25	300	8.00	0.5	756	13.0
MAR							
25...	1110	312	162	7.50	8.0	752	11.5
APR							
23...	0815	248	145	7.70	9.0	747	10.0
JUN							
17...	1640	24	270	7.90	27.0	747	--
AUG							
20...	0835	28	287	7.00	23.5	750	8.1
01607500 SO FK SO BR POTOMAC R AT BRANDYWINE, WV (LAT 38 37 53N LONG 079 14 38W)							
OCT 1985							
03...	1050	9.3	180	8.30	18.0	730	9.0
DEC							
18...	1625	89	190	8.30	3.0	721	12.0
JAN 1986							
16...	1030	14	260	8.00	1.0	752	12.5
FEB							
26...	1635	109	155	7.80	3.0	705	10.0
APR							
23...	1700	77	120	8.60	12.5	720	10.0
JUN							
18...	1600	15	125	8.40	24.0	752	--
AUG							
21...	0945	19	208	8.20	20.5	750	8.5
01608000 SO FK SOUTH BRANCH POTOMAC R NR MOOREFIELD, WV (LAT 39 00 44N LONG 078 57 23W)							
OCT 1985							
02...	1325	16	210	7.80	16.5	743	9.0
DEC							
18...	1410	274	170	7.60	5.0	743	11.5
JAN 1986							
15...	1415	51	134	7.90	1.0	746	12.0
FEB							
26...	1340	347	142	7.80	4.5	724	12.0
APR							
23...	1350	269	135	7.50	11.0	740	10.0
JUN							
18...	1345	52	203	8.00	24.0	741	--
AUG							
20...	1350	34	219	8.20	23.5	740	8.0

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

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DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)
01636451 NORTH FORK LONG MARSH RUN NEAR MEYERSTOWN,WV (LAT 39 11 09N LONG 077 52 47W)					
OCT 1985					
21...	1345	1.5	510	7.90	12.0
DEC					
16...	1405	2.9	570	8.20	10.0
JAN 1986					
14...	1140	2.2	580	8.30	3.0
FEB					
25...	1135	6.2	440	8.10	8.0
MAR					
24...	1425	5.4	570	8.10	17.0
APR					
22...	1050	3.6	515	8.30	12.0
MAY					
19...	1415	2.7	460	8.00	25.0
JUN					
17...	1120	2.3	505	8.10	20.0
JUL					
23...	1510	2.4	500	8.20	27.0
AUG					
19...	1130	1.5	520	8.50	19.0
SEP					
16...	0925	1.2	500	8.20	15.0
01636460 BULLSKIN RUN ABOVE KABLETOWN,WV (LAT 39 13 10N LONG 077 51 59W)					
OCT 1985					
21...	1215	6.5	480	7.90	12.0
DEC					
16...	1240	12	580	8.20	7.0
JAN 1986					
14...	1000	7.5	640	8.20	2.0
FEB					
25...	0955	20	590	8.10	5.0
MAR					
24...	1300	19	535	8.10	13.0
APR					
22...	0905	14	510	8.00	12.0
MAY					
19...	1300	8.8	520	7.90	21.0
JUN					
17...	0945	6.7	520	8.00	18.0
JUL					
23...	1355	4.5	510	8.00	23.0
AUG					
19...	0950	3.7	520	8.20	19.0
SEP					
16...	1050	3.2	500	8.20	16.0
01636462 BULLSKIN RUN AT KABLETOWN,WV (LAT 39 12 57N LONG 077 51 25W)					
OCT 1985					
21...	1255	8.4	480	7.80	12.0
DEC					
16...	1315	17	590	8.00	8.0
JAN 1986					
14...	1040	11	570	8.20	4.0
FEB					
25...	1040	24	560	8.00	6.0
MAR					
24...	1340	24	510	8.00	13.0
APR					
22...	0955	17	495	7.90	12.0
MAY					
19...	1330	13	500	7.70	19.0
JUN					
17...	1030	8.2	520	7.80	17.5
JUL					
23...	1435	6.8	500	7.90	12.0
AUG					
19...	1040	5.9	510	8.10	18.0
SEP					
16...	1015	5.3	525	7.90	15.0

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC, CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)
01636475 EVITTS RUN NEAR RANSON, WV (LAT 39 17 38N LONG 077 53 16W)					
OCT 1985					
21...	1450	5.1	435	7.90	12.0
DEC					
16...	1530	7.4	505	7.90	10.0
JAN 1986					
14...	1330	5.1	495	8.10	7.0
FEB					
25...	1330	9.8	455	7.90	11.0
MAR					
24...	1540	10	460	7.90	17.0
APR					
22...	1245	7.2	480	7.80	13.0
MAY					
19...	1125	6.2	500	7.70	20.0
JUN					
17...	1305	4.6	490	7.80	22.0
JUL					
23...	1620	3.8	475	7.90	21.0
AUG					
19...	1240	2.0	460	8.20	20.5
SEP					
16...	0830	1.9	470	7.90	15.0
03051000 TYGART VALLEY RIVER AT BELINGTON, WV (LAT 39 01 45N LONG 079 56 10W)					
JAN 1986					
23...	1610	2430	--	--	3.0
MAR					
11...	1540	6470	--	--	5.0
03052500 SAND RUN NEAR BUCKHANNON, WV (LAT 38 57 50N LONG 080 09 10W)					
JAN 1986					
23...	1030	114	--	--	2.0
MAR					
10...	1105	117	--	--	5.0
03053500 BUCKHANNON RIVER AT HALL, WV (LAT 39 03 05N LONG 080 06 50W)					
JAN 1986					
23...	1325	2070	--	--	3.0
MAR					
10...	1220	1530	--	--	5.0
03054500 TYGART VALLEY RIVER AT PHILLIPI, WV (LAT 39 09 00N LONG 080 02 25W)					
JAN 1986					
22...	1445	3290	--	--	3.0
MAR					
11...	1215	13900	--	--	3.0
03056250 THREE FORK CREEK NR GRAFTON, WV (LAT 39 20 13N LONG 079 59 36W)					
OCT 1985					
10...	1725	3.2	--	--	16.0
DEC					
11...	1115	158	--	--	6.0
FEB 1986					
19...	1110	1200	--	--	5.0
APR					
16...	1205	129	--	--	9.0
JUN					
11...	1305	17	--	--	22.0

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

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DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE WATER (DEG C)
03057000 TYGART VALLEY RIVER AT COLFAX, WV (LAT 39 26 15N LONG 080 07 55W)			
OCT 1985			
10...	1545	503	19.0
DEC			
10...	1520	5200	5.0
APR 1986			
15...	1150	844	13.0
03061000 WEST FORK RIVER AT ENTERPRISE, WV (LAT 39 25 20N LONG 080 16 40W)			
OCT 1985			
10...	1150	60	18.0
DEC			
10...	1300	1060	5.5
FEB 1986			
24...	1205	2090	5.5
APR			
14...	1350	833	14.0
JUN			
12...	1400	135	24.0
03061500 BUFFALO CREEK AT BARRACKVILLE, WV (LAT 39 30 15N LONG 080 10 20W)			
OCT 1985			
10...	1355	2.6	15.0
DEC			
09...	1505	114	5.5
FEB 1986			
20...	1115	666	0.5
APR			
14...	1015	133	20.0
JUN			
12...	1200	9.9	23.0
03070500 BIG SANDY CREEK AT ROCKVILLE, WV (LAT 39 37 15N LONG 079 42 20W)			
OCT 1985			
24...	1310	107	14.0
DEC			
11...	1430	401	6.0
FEB 1986			
26...	1145	471	3.0
APR			
15...	1525	632	10.0
JUN			
10...	1405	51	20.0

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Crest-stage partial-record stations

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1986

					Annual maximum		
Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (feet)	Dis-charge (ft ³ /s)
Kanawha River basin							
03187000	Gauley River at Camden on Gauley, WV	Lat 38 ^o 21'57", long 80 ^o 36'04", Webster County, Hydrologic Unit 05050005, on right bank in town of Camden on Gauley, 0.2 mile downstream from Coon Creek, and 0.9 mile upstream from Strouds Creek, and at mile 69.6.	236	1909-16, 1930-75*, 1976-86a	11-04-85	23.12	30,500
Guyandotte River basin							
03203000	Guyandotte River at Man, WV	Lat 37 ^o 44'25", long 81 ^o 52'37", Logan County, Hydrologic Unit 05070101, on right bank at downstream side of highway bridge at Man, 500 feet upstream from Buffalo Creek, and 0.7 mile downstream from Huff Creek, and at mile 93.4.	758	1928-62*, 1963-86a	11-28-85	10.33	8,390

* Operated as a continuous-record gaging station.
a Gage-height records on file in district office.

Samples are collected at partial-record, special study, and miscellaneous sites to give better areal coverage. The results of these samples are given herein.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

03193900 - ELK RIVER NEAR WEBSTER SPRINGS, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
AUG 21...	1045	84	111	--	20.0	6.0	6	1.4
SEP 18...	1830	32	122	--	17.5	2.0	2	0.17
23...	1300	38	120	7.80	23.0	2.5	3	0.31
30...	1315	245	88	--	20.5	2.0	3	2.0

03194200 - BACK FORK ELK RIVER AT WEBSTER SPRINGS, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
AUG 21...	1110	240	76	--	20.0	2.5	5	3.2
SEP 18...	1855	13	86	--	17.0	2.5	2	0.07
23...	1130	16	81	7.60	--	2.5	0	0.0
30...	1350	110	52	--	20.0	2.5	1	0.30

03194700 - ELK RIVER BELOW WEBSTER SPRINGS, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 21...	1500	1120	81	88	7.40	15.0	20	68	206
FEB 05...	1345	3630	--	58	7.30	4.5	15	51	500
MAR 05...	1530	351	--	80	--	5.5	7.0	4	3.8
APR 16...	0930	659	--	69	--	8.5	3.0	0	0.0
JUN 05...	1130	99	--	97	--	13.0	3.0	0	0.0
JUL 31...	1150	148	96	95	7.60	23.0	5.0	2	0.80
SEP 23...	0930	81	--	80	7.20	22.5	3.0	0	0.0

03195100 - RIGHT FORK HOLLY RIVER AT GUARDIAN, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 21...	1320	39	102	107	7.50	15.0	6.0	4	0.42
NOV 05...	1500	1630	--	50	--	13.0	25	101	445
FEB 05...	1145	442	--	48	7.20	3.0	8.0	44	53
MAR 05...	1315	78	--	61	7.60	5.0	6.0	1	0.21
APR 15...	1445	77	--	46	--	--	3.5	0	0.0
JUN 06...	1030	22	--	64	--	13.0	3.5	0	0.0
JUL 30...	1615	19	74	73	7.10	24.0	4.0	0	0.0
AUG 21...	1215	3.0	--	92	--	21.5	4.0	5	0.04
SEP 18...	1640	0.77	--	98	--	17.5	3.0	0	0.0
22...	1530	3.2	--	94	7.50	25.0	3.0	0	0.0
30...	1435	20	--	73	--	23.5	4.0	0	0.0

ANALYSIS OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

03195250 - LEFT FORK HOLLY RIVER NEAR REPLETE, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
21...	1150	88	57	60	6.80	14.5	3.5	19	4.5
NOV									
05...	1230	1970	--	43	--	11.0	30	198	1050
FEB									
05...	1045	662	--	36	7.20	2.5	8.0	28	50
MAR									
05...	1130	81	59	50	6.80	6.0	3.0	4	0.87
APR									
15...	1245	121	--	35	--	--	3.0	1	0.33
JUN									
06...	1230	14	--	43	--	15.0	4.0	1	0.04
JUL									
30...	1330	17	45	48	6.90	22.5	3.0	0	0.0
AUG									
21...	1320	6.7	--	60	--	21.5	3.0	48	0.87
SEP									
18...	1535	2.7	--	52	--	16.0	3.0	4	0.03
22...	1350	4.2	49	53	7.10	21.0	2.5	1	0.01
30...	1545	36	--	36	--	21.5	3.0	1	0.10

03196750 - BUFFALO CREEK AT CLAY, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
02...	1005	8.4	--	218	--	13.0	8.0	19	0.43
22...	1500	24	--	218	--	18.5	10	132	8.6
30...	1050	7.8	--	230	--	--	2.0	2	0.04
NOV									
04...	1115	315	--	115	--	13.0	120	578	492
05...	1115	1740	77	86	6.70	12.0	68	334	1570
29...	1230	1380	--	74	--	--	42	253	943
DEC									
10...	1240	153	--	118	--	8.5	3.4	5	2.1
13...	1120	1300	--	63	--	8.0	63	425	1490
JAN									
07...	1430	54	--	131	--	0.5	1.9	31	4.5
FEB									
05...	1230	604	--	73	--	9.0	7.9	52	85
07...	1200	632	--	78	--	8.0	9.4	44	75
18...	1315	1250	--	62	--	8.0	24	213	719
MAR									
04...	1145	218	110	99	6.80	5.0	3.6	7	4.1
11...	1345	528	--	78	--	8.5	14	38	54
APR									
02...	1145	53	--	146	--	21.0	1.5	0	0.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

383443081143201 - BIG SANDY CREEK NEAR AMMA, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
MAY									
05...	1130	10	--	152	--	15.0	6.0	8	0.22
08...	1040	140	--	123	--	17.0	140	545	206
13...	1115	16	--	144	--	18.0	90	11	0.48
14...	1340	16	--	153	--	18.0	50	13	0.56
19...	1300	15	--	167	--	20.0	50	16	0.65
20...	1315	310	--	123	--	16.5	100	264	221
21...	1200	70	--	129	--	15.0	25	30	5.7
29...	1305	8.6	--	165	--	21.0	5.5	13	0.30
JUN									
17...	1205	0.95	--	248	--	25.0	9.0	11	0.03
25...	1200	1.1	262	242	7.20	23.0	60	10	0.03
JUL									
01...	1150	7.1	--	231	--	23.0	100	165	3.2
AUG									
05...	1140	0.33	252	234	7.40	24.5	8.0	17	0.02
08...	1225	2.1	--	223	--	23.0	100	27	0.15
11...	1315	6.0	--	207	--	23.5	100	90	1.5
20...	0920	4.8	--	255	--	--	60	74	0.96
21...	1545	2.7	--	257	--	24.0	50	31	0.23
28...	1310	15	--	274	--	20.5	50	56	2.3
SEP									
04...	1430	9.3	--	333	--	20.0	25	23	0.58
08...	1300	8.8	315	314	7.40	--	45	53	1.3
25...	1110	20	--	280	--	22.5	15	19	1.0
29...	1400	35	--	168	--	24.5	15	27	2.6

383529081104201 - MIDDLE FORK AT NEWTON, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
MAY									
05...	1030	3.7	--	134	--	16.0	6.5	2	0.02
08...	0950	76	--	105	--	17.5	70	124	25
13...	1030	6.6	--	124	--	17.5	9.5	11	0.20
14...	1310	6.4	--	130	--	17.0	20	22	0.38
19...	1145	6.3	144	139	--	20.0	100	62	1.1
20...	1145	64	--	104	--	16.5	50	150	26
29...	1340	4.0	--	140	--	23.0	9.0	9	0.10
JUN									
17...	1250	0.16	--	229	--	24.0	7.5	6	0.00
25...	1115	0.11	272	265	7.30	20.0	8.5	12	0.00
JUL									
01...	1115	1.3	--	168	--	22.0	80	37	0.13
AUG									
05...	1110	0.08	376	359	7.30	24.0	5.5	5	0.00
08...	1200	35	--	101	--	21.5	200	1010	95
11...	1250	2.0	--	145	--	23.0	45	97	0.52
20...	0940	1.0	--	208	--	22.0	15	22	0.06
21...	1510	1.1	--	177	--	24.0	65	30	0.09
28...	1330	2.1	--	165	--	19.5	140	149	0.84
SEP									
04...	1455	1.6	--	194	--	20.0	110	149	0.64
08...	1415	0.84	169	167	7.60	19.0	50	7	0.02
25...	1040	2.5	--	157	--	22.0	75	64	0.43
29...	1440	13	--	127	--	24.0	10	10	0.35

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

383051081212501 - BIG SANDY CREEK NEAR CLENDENIN, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
02...	1200	10	--	452	--	13.0	6.9	8	0.22
21...	0850	54	--	225	--	16.0	64	80	12
22...	1300	70	--	235	--	16.5	17	21	4.0
24...	1315	28	--	277	--	17.0	10	10	0.76
NOV									
04...	1245	1120	--	133	--	13.0	210	842	2550
05...	1205	2920	--	73	--	--	78	155	1220
05...	1715	3440	--	66	--	12.5	88	295	2740
06...	1320	692	--	89	--	12.5	48	74	138
13...	1405	94	--	154	--	14.5	47	61	15
27...	1435	3340	--	67	--	13.5	180	622	5610
29...	1345	3160	--	71	--	12.0	48	96	819
DEC									
06...	1145	445	--	105	--	5.0	28	62	74
13...	1315	1730	--	72	--	--	90	274	1280
JAN									
07...	0945	38	--	126	--	0.5	5.4	6	0.62
FEB									
05...	1330	762	--	89	--	9.5	54	95	195
07...	1100	1450	--	101	--	8.5	82	223	873
18...	1140	2770	--	75	--	6.0	90	223	1670
18...	1330	2500	--	81	--	6.0	86	198	1340
MAR									
10...	1115	180	--	103	7.50	7.0	10	13	6.3
11...	1220	823	--	86	--	9.0	120	247	549
14...	1425	276	--	120	--	10.0	24	35	26
15...	1240	1180	--	86	--	9.0	88	184	586
APR									
02...	1045	33	--	149	--	21.5	10	4	0.36
MAY									
05...	1300	26	--	142	--	16.0	4.0	1	0.07
08...	1105	388	--	147	--	20.0	70	167	175
13...	1130	37	--	146	--	18.0	20	15	1.5
14...	1415	46	--	164	--	18.5	10	15	1.9
20...	1350	402	--	153	--	18.0	65	107	116
29...	1230	41	--	149	--	20.5	20	24	2.7
JUN									
17...	1145	17	--	248	--	22.0	100	102	4.7
26...	1015	4.0	248	245	7.40	20.0	15	13	0.14
JUL									
01...	1230	12	--	256	--	22.0	130	177	5.7
AUG									
01...	1415	4.3	--	235	--	24.5	5.0	7	0.08
05...	1215	1.3	255	246	7.40	24.0	6.0	7	0.02
08...	1130	23	--	254	--	23.0	90	126	7.8
11...	1340	17	--	235	--	23.5	10	18	0.83
20...	0855	8.0	--	254	--	22.0	30	27	0.58
21...	1605	18	--	220	--	24.0	10	31	1.5
28...	1235	14	--	230	--	19.0	25	28	1.1
SEP									
04...	1400	7.0	--	283	--	20.5	10	9	0.17
09...	0945	5.9	--	296	--	14.0	4.0	6	0.10
25...	1135	16	--	248	--	22.0	50	25	1.1
29...	1335	115	--	141	--	22.0	50	70	22

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

382245081233301 - BLUE CREEK NEAR QUICK, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
02...	1420	18	397	--	13.0	1.5	2	0.10
22...	1130	43	204	--	15.5	5.6	12	1.4
24...	1200	15	230	--	17.0	2.1	3	0.12
28...	1000	6.6	248	--	8.0	2.5	3	0.05
NOV								
04...	1400	570	110	--	12.0	130	655	1010
05...	1000	878	97	--	--	60	423	1000
05...	1320	750	93	--	12.0	42	174	352
13...	1220	86	155	--	14.0	4.3	4	0.93
29...	1005	746	79	--	11.5	32	149	300
DEC								
06...	1015	91	135	--	5.0	4.0	7	1.7
13...	0930	530	82	--	7.0	51	628	899
JAN								
22...	1340	82	135	--	2.0	16	19	4.2
FEB								
05...	1440	238	94	--	10.0	7.8	34	22
07...	1005	490	100	--	8.0	48	131	173
18...	1500	750	103	--	7.0	28	76	154
27...	1030	196	192	7.60	--	4.2	3	1.6
MAR								
11...	1015	198	131	--	8.5	15	23	12
31...	1100	33	189	--	15.0	2.0	2	0.18
APR								
17...	1045	30	203	--	8.0	1.0	0	0.0
MAY								
21...	1315	196	102	--	13.0	8.0	12	6.4

383005081245401 - WILLS CREEK BELOW JORDAN LIGHT CHURCH

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
APR									
23...	1030	0.39	--	288	--	8.0	4.0	2	0.00
MAY									
13...	1315	0.45	--	447	--	17.0	60	97	0.12
14...	1505	0.63	--	464	--	19.0	150	157	0.27
19...	1405	0.45	--	351	--	21.0	150	465	0.56
20...	1130	0.68	420	410	--	17.0	15	28	0.05
29...	1140	1.4	--	352	--	21.0	4.0	5	0.02
JUN									
17...	1035	0.69	--	378	--	20.5	75	157	0.29
26...	1115	0.04	--	469	7.80	20.0	5.0	18	0.00
JUL									
01...	1315	1.4	--	560	--	21.0	200	714	2.7
03...	1205	0.92	--	282	--	21.0	15	25	0.06
11...	1450	0.22	--	463	--	26.0	70	70	0.04
AUG									
01...	1225	<0.01	--	649	--	24.5	4.0	7	0.0
08...	1035	0.37	--	427	--	21.0	300	563	0.56
11...	1410	0.21	--	666	--	23.0	30	39	0.02
20...	1410	0.30	--	706	--	23.0	45	35	0.03
28...	1210	0.14	--	601	--	19.0	7.0	7	0.00
SEP									
04...	1330	0.49	--	626	--	19.5	65	142	0.19
08...	1100	0.05	--	660	7.70	--	5.0	26	0.00
24...	1430	0.44	--	666	--	21.0	55	49	0.06
25...	1240	0.21	--	684	--	23.5	8.0	7	0.00
29...	1230	0.14	--	529	--	22.0	5.0	4	0.00

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

382757081290301 - WILLS CREEK 1 MI ABOVE MOUTH

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
APR									
23...	1210	1.9	--	1000	--	9.0	3.0	6	0.03
MAY									
08...	1010	1.6	--	1000	--	19.0	6.0	15	0.06
13...	1255	2.9	--	1510	--	17.5	200	255	2.0
14...	1520	8.0	--	1160	--	19.0	250	487	11
19...	1430	2.9	--	1000	--	22.0	220	388	3.0
20...	1055	7.3	940	1080	--	--	110	153	3.0
29...	1110	0.67	--	2020	--	22.5	60	23	0.04
JUN									
17...	1015	6.2	--	848	--	21.5	290	1760	29
26...	1230	0.03	3800	3620	7.30	22.0	7.0	20	0.00
JUL									
01...	1335	8.2	--	8550	--	21.0	80	1540	34
03...	1140	5.1	--	1430	--	21.5	80	10	0.14
11...	1425	2.9	--	4160	--	28.5	40	58	0.45
AUG									
01...	1205	<0.01	--	4510	--	26.0	3.0	3	0.0
05...	0955	<0.01	6120	5760	7.60	22.5	2.0	2	0.0
08...	1020	1.8	--	1590	--	22.0	300	701	3.4
11...	1430	1.4	--	1660	--	25.0	120	250	0.95
20...	1350	2.0	--	3700	--	24.0	120	120	0.65
27...	1520	0.53	--	3700	--	24.0	9.0	33	0.05
28...	1155	0.53	--	4780	--	19.5	6.0	21	0.03
SEP									
04...	1310	1.8	--	2890	--	20.0	200	224	1.1
08...	1000	0.17	4280	4570	7.40	16.0	2.0	26	0.01
24...	1410	2.4	--	5000	--	22.0	200	320	2.1
25...	1300	0.30	--	3000	--	25.0	120	23	0.02
29...	1250	1.4	--	2800	--	26.0	2.0	14	0.05

382728081295201 - LITTLE SANDY CREEK ABOVE MOUTH OF WILLS CREEK

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
MAY									
08...	0955	9.5	--	204	--	19.0	40	19	0.49
13...	1240	11	--	206	--	18.0	80	60	1.8
15...	0920	9.2	--	224	--	17.0	25	20	0.50
19...	1445	5.8	--	225	--	22.0	4.0	4	0.06
20...	1230	38	--	166	--	17.0	80	107	11
29...	1030	10	--	206	--	21.0	8.5	8	0.22
JUN									
17...	0950	35	--	215	--	22.0	50	178	17
27...	1130	0.80	350	339	7.20	22.0	5.5	5	0.01
JUL									
01...	1350	2.4	--	228	--	21.5	150	117	0.76
03...	1110	43	--	181	--	21.0	35	52	6.0
11...	1415	11	247	247	--	27.0	20	25	0.74
AUG									
01...	1120	<0.01	--	315	--	22.0	4.0	27	0.0
08...	1005	0.65	--	274	--	22.5	120	143	0.25
11...	1440	11	--	241	--	24.0	50	78	2.3
20...	1320	4.3	--	245	--	23.0	140	100	1.2
27...	1445	2.6	--	231	--	23.0	250	449	3.2
28...	1110	7.6	--	249	--	19.0	100	16	0.33
SEP									
04...	1230	1.9	--	212	--	20.0	300	189	0.97
09...	1115	0.35	270	254	7.30	14.0	120	24	0.02
24...	1335	2.6	--	220	--	21.5	400	105	0.74
25...	1310	12	--	250	--	24.0	40	50	1.6
29...	1255	12	--	242	--	24.5	9.0	15	0.49

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

03214500 - TUG FORK AT KERMIT, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 10...	1445	130	950	8.40	18.5	752	--	--	--	--	0	0.0
NOV 26...	1330	625	430	7.10	13.0	750	10.1	98	8.2	3.0	--	--

03214900 - TUG FORK AT GLENHAYES, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)
OCT 10...	1800	153	950	8.20	19.0	750	--
NOV 27...	1515	2400	270	7.30	12.5	746	10.0

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 10...	--	--	--	7	2.9	17
NOV 27...	96	7.6	5.2	--	--	--

380700082355401 - TUG FORK AT FORT GAY, WV

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)
OCT 11...	1030	155	940	8.10	18.5	750	--
NOV 27...	1145	2480	275	7.30	13.0	747	9.9

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 11...	--	--	--	21	8.8	42
NOV 27...	96	23	4.3	--	--	--

GROUND-WATER-QUALITY RECORDS

REMARKS CODES.--The following remark codes may appear with the water-quality data in this section:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated value
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

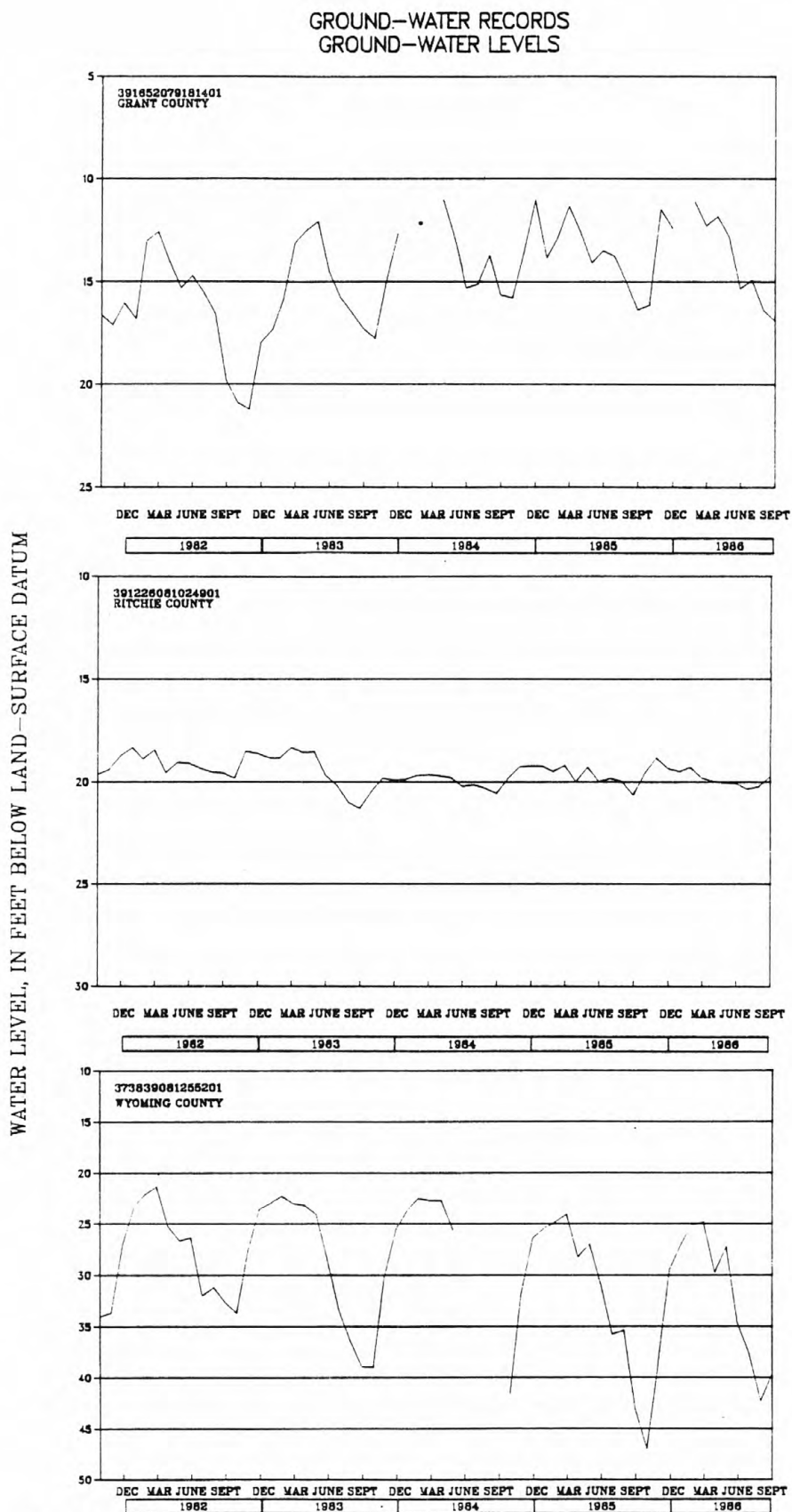


Figure 6.—End of month water levels for selected observation wells, October 1981 to September 1986.

GROUND WATER RECORDS

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GROUND WATER LEVELS

BERKELEY COUNTY

392725077582401. Local number, 20-5-7.

LOCATION.--Lat 39°27'25", long 77°58'24", Hydrologic Unit 02070004, at John Street and Porter Avenue, Martinsburg.

Owner: Martinsburg Mills, Inc.

AQUIFER.--Beekmantown Group of Lower Ordovician age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in., depth 250 ft, cased with steel to 10 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 445 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, 3.30 ft above land-surface datum.

REMARKS.--No water-level record Nov. 30 to Dec. 6, Feb. 21-24, due to float hanging.

PERIOD OF RECORD.--November 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.00 ft, estimated, below land-surface datum, June 24, 1972; lowest, 68.45 ft below land-surface datum, Dec. 7, 1969.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	53.47	44.33	---	45.87	47.52	42.24	41.06	43.60	46.39	51.01	55.51	56.30
10	54.74	44.67	42.21	46.74	46.76	43.17	41.27	44.38	47.49	51.65	55.77	56.42
15	55.33	46.67	41.94	47.57	46.91	37.74	42.20	45.08	48.43	52.46	56.12	56.62
20	55.82	46.66	42.75	47.81	41.70	37.88	40.80	45.86	49.25	53.27	56.06	56.74
25	48.70	43.89	43.76	48.21	41.11	39.21	41.82	43.59	50.03	54.15	55.61	56.87
EOM	51.51	---	44.92	48.68	41.20	40.13	42.72	45.26	50.56	55.21	56.12	56.91

WTR YR 1986 HIGH 36.93 MAR 16 LOW 56.92 SEP 27

BRAXTON COUNTY

384003080462601. Local number, 34-2-15.

LOCATION.--Lat 38°40'03", long 80°46'26", Hydrologic Unit 05050007, at Kanawha Street, Gassaway.

Owner: Claude Cunningham.

AQUIFER.--Conemaugh Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 100 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 1,100 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.92 ft above land-surface datum.

PERIOD OF RECORD.--August 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 72.28 ft below land-surface datum, Mar. 7, 1973; lowest measured, 74.88 ft below land-surface datum, Aug. 11, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1985	73.86	JAN 01, 1986	73.57	APR 02, 1986	73.46	JUL 02, 1986	73.77
09	73.88	08	73.65	09	73.53	09	73.76
16	73.88	15	73.68	16	73.60	16	73.73
23	73.88	18	73.70	23	73.67	23	73.70
30	73.88	29	73.64	30	73.68	30	73.70
NOV 06	73.31	FEB 05	73.53	MAY 07	73.68	AUG 06	73.72
13	73.65	12	73.43	14	73.70	13	73.73
20	73.75	19	73.33	21	73.71	20	73.74
27	73.23	26	73.24	28	73.72	27	73.74
DEC 04	73.28	MAR 05	73.24	JUN 04	73.73	SEP 03	73.75
11	73.34	12	73.26	11	73.75	10	73.76
18	73.38	19	73.27	18	73.76	17	73.76
25	73.48	26	73.33	25	73.77	24	73.76

BROOKE COUNTY

401216080362703. Project number P-1.

LOCATION.--Lat 40°12'16", long 80°36'27", Hydrologic Unit 05030106, about 2.5 mi west of Bethany on hilltop about 1700 ft west of Buffalo Creek.

Owner: C. E. Reeves.

AQUIFER.--Waynesburg coal in the Monongahela Group of Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 50.5 ft, cased with steel to 46.5 ft.

INSTRUMENTATION.--Continuous strip-chart water-level recorder.

DATUM.--Elevation of land-surface datum is about 1,150 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.20 ft above land-surface datum.

REMARKS.--Aquifer test data available. No water-level record Dec. 15 to Jan. 20, Feb. 2-11, 14-19, July 3 to Aug. 13, due to recorder malfunction.

PERIOD OF RECORD.--July 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.87 ft below land-surface datum, Apr. 3, 1985; lowest, 42.09 ft below land-surface datum, Oct. 17, 18, 29, 1985 (42.83 ft on Sept. 22, 1982, result of recharge test).

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	41.84	41.44	36.27	---	---	37.51	38.91	39.92	41.29	---	---	41.67
10	42.00	39.78	37.06	---	---	38.00	38.87	40.47	41.37	---	---	41.80
15	41.93	37.23	---	---	---	36.18	38.92	40.71	41.42	---	41.34	41.93
20	42.04	35.98	---	---	36.38	36.36	39.05	40.84	41.48	---	41.37	41.90
25	42.03	36.90	---	38.05	35.85	37.10	38.47	41.07	41.49	---	41.47	41.84
EOM	42.03	35.49	---	35.98	36.55	36.11	39.14	41.13	41.44	---	41.66	41.90

WTR YR 1986 HIGH 35.49 NOV 30 LOW 42.09 OCT 17 AND OTHERS

GILMER COUNTY

385604080495901. Local number, 33-3-1.

LOCATION.--Lat 38°56'04", long 80°49'59", Hydrologic Unit 05030203, at Glenville State College Campus, Glenville.

Owner: Glenville State College.

AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Dug unused water-table well, diameter 3 ft, depth 25 ft, cased with concrete tile.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 820 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of concrete cover at land-surface datum.

REMARKS.--West Virginia Index well.

PERIOD OF RECORD.--October 1953 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.58 ft below land-surface datum, Jan. 26, 1958; lowest measured, 18.75 ft below land-surface datum, Nov. 30, 1953.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1985	17.82	JAN 13, 1986	16.81	APR 21, 1986	16.41	JUL 14, 1986	16.41
08	17.84	20	16.70	28	16.41	21	16.61
14	17.85	27	15.40	MAY 05	16.65	28	16.79
21	16.32	FEB 03	15.85	12	16.83	AUG 04	17.02
28	16.71	10	15.15	20	16.96	11	17.08
NOV 06	14.76	17	14.50	27	16.95	18	17.10
11	15.52	24	15.04	JUN 02	17.05	25	16.99
18	15.84	MAR 03	15.06	09	17.24	SEP 02	17.08
22	15.82	10	15.24	16	17.33	08	16.96
DEC 02	15.28	17	14.91	23	17.35	15	17.13
09	15.49	24	15.32	30	16.95	22	17.33
16	15.14	APR 14	16.35	JUL 07	16.29	29	16.46

GRANT COUNTY

391652079181401.

LOCATION.--Lat 39°16'52", long 79°18'14", Hydrologic Unit 02070002, about 200 ft north of U.S. Route 50, about 3.5 mi west of Mount Storm.

Owner: Buffalo Coal Company.

AQUIFER.--Thin bed of coal in the Conemaugh Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 24 ft, cased with plastic to 23 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 2,690 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, 1.50 ft above land-surface datum.

REMARKS.--Well is near reclaimed surface mine. No water-level record Jan. 14-21, Jan. 28 to Feb. 17, Mar. 8-25, due to recorder malfunction.

PERIOD OF RECORD.--June 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.33 ft below land-surface datum, Mar. 11-15, 1979; lowest, 21.24 ft below land-surface datum, Nov. 28, 29, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.23	15.28	11.13	12.97	---	11.76	12.94	12.29	13.47	15.60	15.40	16.29
10	16.66	14.13	11.43	13.72	---	---	12.87	12.89	14.14	15.48	15.54	16.59
15	16.51	13.29	11.25	---	---	---	12.86	13.31	14.64	15.32	15.83	16.73
20	16.79	12.74	11.25	---	11.91	---	12.14	13.35	14.95	14.93	15.98	16.77
25	16.55	12.26	11.36	13.94	11.21	---	11.73	13.01	15.20	14.92	16.11	16.69
EOB	16.11	11.48	12.40	---	11.11	12.29	11.82	12.85	15.34	14.90	16.40	16.92

WTR YR 1986 HIGH 10.83 DEC 2 LOW 16.92 SEP 30

GREENBRIER COUNTY

374804080174001. Local number, 45-8-2.

LOCATION.--Lat 37°48'04", long 80°17'40", Hydrologic Unit 05050003, at Fish Culture Station, U.S. Fish and Wildlife Service Hatchery, White Sulphur Springs.

Owner: U.S. Government.

AQUIFER.--Marcellus Formation and Harrell Shale of Middle Devonian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 61 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 1,875 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.90 ft above land-surface datum.

PERIOD OF RECORD.--November 1953 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.80 ft below land-surface datum, Mar. 16, 1955; lowest measured, 14.82 ft below land-surface datum, Aug. 29, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1985	6.02	JAN 04, 1986	5.34	APR 05, 1986	5.43	JUL 05, 1986	5.53
12	6.04	11	5.35	12	5.48	12	5.87
19	6.07	18	5.38	19	5.55	19	6.17
26	5.91	25	5.16	26	5.99	26	6.54
NOV 02	5.54	FEB 01	5.28	MAY 03	5.94	AUG 02	7.70
09	5.10	08	4.74	10	6.00	09	6.60
16	5.24	15	5.14	17	5.58	16	5.91
23	4.75	22	5.04	24	5.30	23	5.80
30	4.25	MAR 01	5.12	31	5.50	30	5.96
DEC 07	5.18	08	5.16	JUN 07	5.63	SEP 06	5.85
14	5.20	15	4.48	14	5.98	13	6.07
21	5.24	22	5.28	21	6.15	20	6.05
28	5.25	29	5.38	28	6.20	27	6.07

GROUND-WATER LEVELS

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GREENBRIER COUNTY (continued)

375747080465901. Project number, M005.

LOCATION.--Lat 37°57'47", long 80°46'59", Hydrologic Unit 05050005, 0.40 mi southwest on Rt. 20 from the junction of U.S. Route 60 and State Route 20 in Rainelle.

Owner: Chesapeake and Ohio Railroad.

AQUIFER.--Bluestone and Princeton Formations of Upper Mississippian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 10.5 in., depth 119 ft, cased with galvanized iron to 59.5 ft.

INSTRUMENTATION.--January 1980 to October 1982, periodic measurement with chalked tape by USGS personnel; October 1982 to current year, digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 2,380 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 4.50 ft below land-surface datum.

REMARKS.--No water-level record Mar. 26 to May 1, May 15 to June 27, Sept. 1-8, due to recorder malfunction.

PERIOD OF RECORD.--January 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level, 18.94 ft below land-surface datum, Mar. 17, 1986; lowest, 29.91 ft below land-surface datum, Apr. 12, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	24.87	24.50	19.23	21.25	19.97	19.98		20.78	---	20.79	21.55	---
10	25.45	21.64	19.57	21.35	19.47	20.06		21.08	---	21.13	21.11	21.23
15	25.62	21.17	19.29	21.40	19.51	19.17		---	---	20.43	21.34	21.79
20	25.44	21.90	19.51	20.66	19.48	20.68		---	---	20.95	21.74	21.91
25	25.14	20.67	20.27	20.08	19.52	20.10		---	---	20.62	21.93	22.24
EQM	25.74	19.30	21.11	20.37	19.56	---		---	22.45	20.49	22.48	22.23

WTR YR 1986 HIGH 18.96 MAR 17 LOW 26.16 OCT 11

HAMPSHIRE COUNTY

391257078404601. Local number, 23-6-46.

LOCATION.--Lat 39°12'57", long 78°40'46", Hydrologic Unit 02070003, about 4 mi south of Augusta on State Route 7.

Owner: Loring Hott.

AQUIFER.--Hampshire Formation of Upper Devonian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 24 ft, cased with tile.

INSTRUMENTATION.--Continuous strip-chart water-level recorder.

DATUM.--Elevation of land-surface datum is about 1,400 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing at land-surface datum.

REMARKS.--Plastic liner inserted in well Mar. 9, 1982, to eliminate float hanging. No water-level record Oct. 2 to Dec. 16, Dec. 18 to Jan. 13, Jan. 24 to Feb. 24, Mar. 12-24, Mar. 26 to Apr. 16, Apr. 18-21, May 21-28, due to recorder malfunction.

PERIOD OF RECORD.--February 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.30 ft below land-surface datum, Sept. 25, 1975; lowest, 16.69 ft, estimated, below land-surface datum, July 15, 1973.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	8.00	---	11.30	11.82	12.91	13.53	13.65
10	---	---	---	---	---	3.85	---	11.68	12.18	13.03	13.26	13.88
15	---	---	---	12.40	---	---	---	11.84	12.53	12.98	13.45	14.09
20	---	---	---	9.54	---	---	---	11.85	12.67	12.60	13.46	14.22
25	---	---	---	---	2.70	9.37	9.57	---	12.74	12.94	13.30	14.34
EQM	---	---	---	---	5.28	---	10.76	10.91	12.78	13.24	13.60	14.48

WTR YR 1986 HIGH 1.18 MAR 11 LOW 14.51 OCT 1

HARDY COUNTY

385714078441301. Local number, 25-4-5.

LOCATION.--Lat 38°57'14", long 78°44'13", Hydrologic Unit 02070003, about 3 mi east of Lost River near entrance to Trout Pond Recreation Area.

Owner: U.S. Forest Service.

AQUIFER.--Helderberg Group of Early Devonian age and Tonoloway Formation of Late Silurian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 460 ft, cased with steel to 190 ft.

INSTRUMENTATION.--Continuous strip-chart water-level recorder prior to November 1976, then periodic measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is about 1,920 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of well casing, 0.90 ft above land-surface datum.

PERIOD OF RECORD.--March 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 263.00 ft, estimated, below land-surface datum, July 15, 1972; lowest, 274.80 ft below land-surface datum, Oct. 1, 1985.

NOTE.--Water-level measurement Oct. 1, 1985, 274.80 ft below land-surface datum. Water-level measurement Apr. 22, 1986, 272.10 ft below land-surface datum.

GROUND-WATER LEVELS

LEWIS COUNTY

390553080280802. Local number, 16-1-9.

LOCATION.--Lat 39°05'53", long 80°28'08", Hydrologic Unit 05020002, at Jackson's Mill State 4-H Camp, Jackson's Mill.
Owner: West Virginia University.

AQUIFER.--Conemaugh Group and Allegheny Formation of Upper and Middle Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 12 in., depth 122 ft, cased.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer prior to October 1977, then periodic measurement by USGS personnel.

DATUM.--Elevation of land-surface datum is about 1,020 ft above National Geodetic Vertical Datum of 1929. Measuring point: Drilled hole in steel plate covering casing at land-surface datum.

REMARKS.--Water level affected by stage of West Fork River.

PERIOD OF RECORD.--May 1961 to May 1976, October 1977 to current year. No measurements May 1976 to October 1977, observer resigned.

REVISED RECORDS.--WDR WV-85-1: Highest water level.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.00 ft below land-surface datum, Dec. 11, 1972; lowest measured, 24.80 ft below land-surface datum, Oct. 6, 1977.

NOTE.--Water-level measurement Oct. 18, 1985, 22.98 ft below land-surface datum. Water-level measurement Dec. 4, 1985, 21.00 ft below land-surface datum. Water-level measurement May 8, 1986, 22.70 ft below land-surface datum.

390008080283401. Project number, SJ4.

LOCATION.--Lat 39°00'08", long 80°28'34", Hydrologic Unit 05020002, about 75 ft northeast of County Route 30 bridge across West Fork River at Brownsville.

Owner: U.S. Geological Survey.

AQUIFER.--Monongahela Formation of the Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 102 ft, cased with galvanized iron to 18 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch to Nov. 4, 1985; then periodic measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is about 1,026 ft above National Geodetic Vertical Datum of 1929. Measuring point: Three hacksaw marks on top of casing at land-surface datum.

REMARKS.--Recorder removed Dec. 5, 1985 because of flooding from Stonewall Jackson Dam site. Converted to periodic measurements.

PERIOD OF RECORD.--March 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.30 ft below land-surface datum, Aug. 31, 1984; lowest, 12.64 ft below land-surface datum, Oct. 7, 8, 10, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
(NOON VALUES OCTOBER ONLY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.73	---										
10	11.79	---										
15	10.97	---										
20	10.64	---										
25	9.22	---										
EOB	10.06	---										

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 17, 1986	9.85	MAR 28, 1986	7.88	MAY 08, 1986	10.68	JUN 26, 1986	10.25
AUG 28	9.74						

MARION COUNTY

393101080150501.

LOCATION.--Lat 39°31'01", long 80°15'05", Hydrologic Unit 05020003, about 1,250 ft north of State Route 91 and 100 ft west of State Route 15 in Farmington.

Owner: State of West Virginia.

AQUIFER.--Open to a mine in Pittsburgh coal, Member of Monongahela Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 266 ft, cased with steel to 252 ft.

INSTRUMENTATION.--Daily water-level measurements by observer.

DATUM.--Elevation of land-surface datum is about 970 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of steel plate at land-surface datum.

REMARKS.--Well formerly used by U.S. Bureau of Mines to back fill abandoned mine with shale slurry. Water level affected by mine pumpage. No water-level record Nov. 30, Dec. 25, May 20, 25, June 15, Aug. 25. Some unpublished daily values also missing.

PERIOD OF RECORD.--April 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 155.54 ft below land-surface datum, Sept. 21, 1986; lowest measured, 219.47 ft below land-surface datum, May 12, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	163.88	163.62	163.35	162.85	162.14	161.24	159.59	158.29	157.44	156.87	156.20	155.65
10	163.94	163.89	163.32	162.76	162.21	160.69	159.16	158.36	157.56	156.54	155.97	155.71
15	163.74	163.79	163.32	162.92	162.13	160.64	158.94	158.16	---	156.56	156.01	155.71
20	163.89	163.78	163.11	162.71	161.78	160.34	158.63	---	157.03	156.42	156.03	155.72
25	163.98	163.68	---	162.48	161.68	160.34	158.90	---	157.02	156.31	---	155.76
EOB	163.71	---	162.81	162.71	161.38	159.94	158.50	157.47	156.80	156.21	155.89	155.64

WTR YR 1986 HIGH 155.54 SEP 21 LOW 164.18 OCT 17

GROUND-WATER LEVELS

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MARION COUNTY (continued)

393057080161901.

LOCATION.--Lat 39° 30' 57", long 80° 16' 19", Hydrologic Unit 05020003, on State Route 250/9, 1.20 mi west of Farmington.

Owner: Richard White.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 74 ft, cased with steel to 6 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch to February 1986, then periodic measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is about 1,140 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, flush with instrument shelf 0.30 ft above land-surface datum.

REMARKS.--No water-level record from digital recorder after Nov. 10, due to recorder malfunction. Recorder removed Feb. 20, 1986. Converted to periodic measurements.

PERIOD OF RECORD.--June 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.70 ft below land-surface datum, Apr. 23, 1984; lowest, 56.32 ft below land-surface datum, Oct. 18-20, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
(NOON VALUES OCTOBER AND NOVEMBER)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	54.62	39.48										
10	54.79	47.23										
15	54.90	---										
20	55.08	---										
25	54.60	---										
EOM	54.45	---										

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 10, 1985	41.25	FEB 20, 1986	23.32	SEP 16, 1986	54.30

MASON COUNTY

385451082062001. Local number, 38-3-54.

LOCATION.--Lat 38° 54' 51", long 82° 06' 20", Hydrologic Unit 05030202, about 0.50 mi east of intersection of State Route 62 and Secondary State Route 13.

Owner: West Virginia University, Ohio Valley Agricultural Experiment Station.

AQUIFER.--Conemaugh Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 131 ft, cased with steel to 60 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 615 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

REMARKS.--No water-level record Oct. 22 to Dec. 11, May 11 to July 9, due to recorder malfunction.

PERIOD OF RECORD.--November 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.26 ft below land-surface datum, Aug. 22-25, 1980; lowest, 26.20 ft below land-surface datum, Jan. 1, 1966, (33.27 ft below land-surface datum, Oct. 29, 1984, due to pumping).

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
(NOON VALUES)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	25.22		---	25.18	25.15	24.97	24.74	24.79		---	25.38	25.51
10	25.28		---	25.22	25.15	24.94	24.70	24.81		24.81	25.40	25.56
15	25.26		25.19	25.22	25.07	24.82	24.72	---		24.82	25.42	25.56
20	25.27		25.20	25.14	25.03	24.80	24.74	---		25.26	25.42	25.59
25	---		25.15	25.21	25.01	24.81	24.75	---		25.30	25.46	25.59
EOM	---		25.17	25.24	24.98	24.76	24.75	---		25.33	25.50	25.57

WTR YR 1986 HIGH 24.69 APR 22 LOW 25.60 SEP 21 AND OTHERS

GROUND-WATER LEVELS

MERCER COUNTY

372149081055001. Local number, 48-5-1.

LOCATION.--Lat 37°21'49", long 81°05'50", Hydrologic Unit 05050002, at Princeton Water Service, Company No. 1 well, Princeton.

Owner: West Virginia Service Company.

AQUIFER.--Hinton Formation of Upper Mississippian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 249 ft, cased. Measured depth 165 ft, Oct. 24, 1985.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 2,387 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing extension, 5.50 ft above land-surface datum. Prior to September 1975 measuring point was top of casing at land-surface datum.

REMARKS.--Water level affected by nearby pumping. Well casing modified Oct. 24, 1985 to permit more reliable water-level readings.

PERIOD OF RECORD.--March 1960 to current year.

REVISED RECORDS.--WDR WV-79-1: 1977-78 (water levels).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.25 ft above land-surface datum, Feb. 26, 1986, (flowing at land-surface datum, many days 1968 to 1985); lowest measured, 90.58 ft below land-surface datum, Dec. 10, 1969.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1985	1.33	JAN 01, 1986	0.52	APR 02, 1986	+0.34	JUL 02, 1986	0.21
09	1.59	08	0.52	09	+0.33	09	0.37
16	1.81	15	1.02	16	0.05	16	0.02
23	1.62	22	0.54	23	0.37	23	0.26
30	1.61	29	0.52	30	0.26	30	0.39
NOV 06	0.60	FEB 05	+0.72	MAY 07	0.22	AUG 06	0.88
13	0.58	12	+0.53	14	+0.38	13	1.00
20	0.66	19	+1.06	21	+0.90	20	+0.25
27	0.07	26	+1.25	28	+0.56	27	+0.36
DEC 04	+0.53	MAR 05	+0.53	JUN 04	+0.10	SEP 03	+0.84
11	+0.42	12	+0.34	11	+0.13	10	+0.56
18	+0.20	19	+0.82	18	0.12	17	+0.08
25	0.30	26	+0.52	25	0.32	24	0.25

NOTE: Water levels with "+" are above land surface.

MINERAL COUNTY

392114079081101. Local number, 22-5-23.

LOCATION.--Lat 39°21'14", long 79°08'11", Hydrologic Unit 02070002, 2.20 mi north of U.S. Route 50 on State Route 42 at Sulphur City near Elk Garden.

Owner: Gerald Whisner.

AQUIFER.--Conemaugh Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 37 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer 1968 to 1976, periodic measurement with chalked tape by USGS personnel 1977 to current year.

DATUM.--Elevation of land-surface datum is about 2,480 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.70 ft above land-surface datum.

REMARKS.--Well flows at times. Water level affected by nearby pumpage at times. Well depth 6 ft, Oct. 24, 1980.

PERIOD OF RECORD.--August 1968 to October 1976, May 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.69 ft above land-surface datum, many days since 1968; lowest measured, 10.81 ft below land-surface datum, Oct. 29, 1968.

NOTE.--Water-level measurement Oct. 4, 1985, 5.98 ft below land-surface datum. Water-level measurement May 12, 1986, 1.64 ft below land-surface datum.

MINGO COUNTY

373554081493401.

LOCATION.--Lat 37°35'54", long 81°49'34", Hydrologic Unit 05070101, downstream of toe of R. D. Bailey Dam northeast of Justice.

Owner: U.S. Army Corps of Engineers.

AQUIFER.--New River Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in., depth 66 ft, cased with steel.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 920 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, flush with top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--March 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.39 ft below land-surface datum, May 12, 1984; lowest, 44.29 ft below land-surface datum, Oct. 6, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	35.02	32.62	33.58	34.74	31.50	33.47	35.07	34.42	34.42	34.69	35.33	34.14
10	35.12	34.82	34.21	34.83	32.20	33.80	35.06	33.29	34.47	35.07	35.13	34.64
15	35.10	35.14	32.88	34.71	33.30	32.41	35.08	34.27	34.64	34.52	35.28	34.87
20	35.15	35.05	34.74	34.16	30.23	33.18	35.04	32.00	34.94	34.93	35.11	34.33
25	35.16	33.98	34.77	33.32	32.35	33.70	33.96	33.71	34.96	35.11	34.86	33.89
EOB	35.18	34.37	35.15	33.62	33.30	34.09	33.81	34.08	34.98	35.29	35.07	34.69

WTR YR 1986 HIGH 30.23 FEB 20 LOW 35.34 AUG 6

MONONGALIA COUNTY

394006080194801. Local number, 9-1-47.

LOCATION.--Lat 39°40'06", long 80°19'48", Hydrologic Unit 05020005, 1 mi east of Wadestown on State Route 7.

Owner: Howard Shriver.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 65 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 1,060 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.20 ft above land-surface datum.

PERIOD OF RECORD.--July 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.19 ft below land-surface datum, Feb. 11, 1986; lowest measured, 11.35 ft below land-surface datum, Aug. 6, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1985	8.30	DEC 31, 1985	5.09	APR 08, 1986	5.15	JUL 08, 1986	6.64
08	8.37	JAN 07, 1986	5.19	15	4.95	15	6.62
15	8.43	14	5.20	22	5.00	22	6.59
22	8.46	21	5.21	29	5.29	29	5.75
29	8.46	28	4.88	MAY 06	5.43	AUG 05	5.54
NOV 05	6.60	FEB 04	4.22	13	6.19	12	6.09
12	5.85	11	4.19	20	6.35	19	6.28
19	5.13	18	4.39	27	7.05	26	6.78
26	5.08	MAR 03	4.68	JUN 03	6.82	SEP 02	6.79
DEC 03	5.10	10	4.49	10	6.87	09	7.07
10	5.12	17	4.84	17	6.99	16	7.12
17	5.15	24	5.07	24	7.00	23	7.15
24	5.13	APR 01	5.11	JUL 01	6.80		

392923079571801. Local number, 9-7-33.

LOCATION.--Lat 39°29'23", long 79°57'18", Hydrologic Unit 05020003, 1 mi northwest of Halleck on Secondary State Route 79.

Owner: Paul H. Price.

AQUIFER.--Buffalo Mahoning sandstone member of Conemaugh Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 141 ft, cased with steel to 21 ft.

INSTRUMENTATION.--Digital water-level recorder, 1961-62, 1978 to 1985; monthly measurement with chalked tape by USGS personnel, 1953 to 1961, 1962 to 1978, 1985 to current year.

DATUM.--Elevation of land-surface datum is about 1,850 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, flush with shelter floor, 0.35 ft above land-surface datum.

REMARKS.--Removed digital recorder November 1985; converted to monthly tape measurements.

PERIOD OF RECORD.--March 1953 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.95 ft below land-surface datum, Jan. 4, 1960; lowest measured, 80.57 ft below land-surface datum, Oct. 25, 1973.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
(NOON VALUES OCTOBER ONLY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	71.77	---										
10	71.73	---										
15	71.18	---										
20	71.04	---										
25	70.93	---										
EOM	71.00	---										

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 25, 1985	48.90	FEB 19, 1986	48.03	MAY 27, 1986	57.97	AUG 22, 1986	71.75
DEC 30	51.65	MAR 26	54.08	JUN 23	72.24	SEP 23	71.45
JAN 22, 1986	47.87	APR 21	49.14	JUL 21	67.25		

MORGAN COUNTY

393043078174001. Local number, 19-5-14.

LOCATION.--Lat 39°30'43", long 78°17'40", Hydrologic Unit 02070004, on Cacapon State Park south of Berkeley Springs on U.S. Route 522.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Tonoloway Formation of Upper Silurian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., reported depth 250 ft, cased with steel to 33 ft.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer, 1971-75; monthly measurement with chalked tape by USGS personnel, 1976-77; digital water-level recorder--60-minute punch, 1977 to current year.

DATUM.--Elevation of land-surface datum is about 875 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, 1.10 ft above land-surface datum. Prior to Aug. 16, 1977 measuring point was 1.20 ft above land-surface datum.

PERIOD OF RECORD.--July 1971 to July 1973, November 1974 to March 1975, July 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.14 ft below land-surface datum, May 21, 1980; lowest measured, 38.56 ft below land-surface datum, Sept. 25, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	34.14	32.37	32.94	33.26	32.65	33.08	33.58	33.71	34.90	35.07	36.06	34.06
10	36.82	33.37	33.00	33.42	32.91	33.17	33.63	33.54	33.92	32.94	35.88	36.64
15	32.93	33.48	33.02	33.69	33.02	32.50	33.64	33.60	34.89	35.47	35.87	37.75
20	35.28	33.30	33.22	32.48	32.52	33.04	33.38	33.44	35.31	33.79	35.15	38.20
25	32.94	33.23	32.93	32.74	32.91	33.21	33.59	33.38	34.01	33.71	35.83	38.51
EOM	34.09	32.88	33.47	33.10	33.03	33.36	33.82	33.99	34.94	35.70	36.82	35.81

WTR YR 1986 HIGH 32.30 FEB 4 LOW 38.51 SEP 24 AND OTHERS

GROUND-WATER LEVELS

NICHOLAS COUNTY

381513081094201. Project number, T-2.

LOCATION.--Lat 38°15'13", long 81°09'42", Hydrologic Unit 05050005, about 3 mi east of Belva and Route 16 on left of Secondary Route 20/21.

Owner: Burt Whiston.

AQUIFER.--Kanawha Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 95 ft, cased with galvanized iron to 13 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is 742.6 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level 2.52 ft below land-surface datum, Apr. 25, 1983; lowest, 12.57 ft below land-surface datum, Aug. 15, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.32	8.25	10.31	11.23	9.75	10.34	11.21	11.35	11.00	10.02	12.22	11.36
10	11.77	10.49	10.59	11.23	9.81	10.17	11.27	11.21	10.51	10.53	12.21	11.78
15	12.08	11.04	9.44	11.44	10.46	9.55	11.42	11.33	10.87	11.16	12.31	12.11
20	11.97	11.25	10.37	11.18	9.29	10.30	11.28	10.85	11.41	11.60	12.14	12.15
25	11.72	10.12	10.88	10.21	9.88	10.76	10.98	10.98	11.63	11.91	11.58	12.22
EOM	11.81	8.34	11.03	10.66	10.10	11.02	11.10	9.95	11.69	12.07	11.75	11.53

WTR YR 1986 HIGH 4.00 JUL 2 LOW 12.37 AUG 9

POCAHONTAS COUNTY

380653080155301.

LOCATION.--Lat 38°06'53", long 80°15'53", Hydrologic Unit 05050003, on Droop Mountain State Park north of Droop on U.S. Route 219.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Mauch Chunk Group of Upper Mississippian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 86 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer, 1970-76; periodic measurement by USGS personnel, 1978-80; digital water-level recorder--60-minute punch, 1980 to current year.

DATUM.--Elevation of land-surface datum is about 3,000 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base at land-surface datum. May 28, 1980 to July 7, 1983, measuring point 0.65 ft above land-surface datum. Prior to May 28, 1980 measuring point was top of casing at land-surface datum.

PERIOD OF RECORD.--December 1970 to January 1976, April 1978 to current year. Published as local well number "44-4-1", 1973-78.

REVISED RECORDS.--WDR WV-79-1: Well location, well characteristics, and water levels. WDR WV-83-1: Station identification number and lowest water level.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.86 ft below land-surface datum, May 30, 1982; lowest, 70.12 ft below land-surface datum, Sept. 4, 1983. (73.39 ft below land-surface datum, Oct. 25, 1984, due to pumping.)

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	69.76	68.45	68.65	69.16	68.45	68.85	69.08	69.08	69.14	69.14	69.71	69.55
10	69.83	68.92	68.58	69.19	68.46	68.69	69.16	69.19	68.91	69.27	69.76	69.87
15	69.83	69.16	68.40	69.22	68.71	67.98	69.11	69.13	69.19	69.48	69.80	69.92
20	69.88	68.89	68.69	68.61	68.36	68.16	69.13	68.20	69.25	69.54	69.86	69.95
25	68.89	68.69	68.81	68.73	68.67	68.72	68.96	68.96	69.32	69.53	69.82	70.02
EOM	69.29	68.33	68.99	69.03	68.73	68.93	68.81	68.80	69.42	69.62	69.88	69.99

WTR YR 1986 HIGH 67.98 MAR 15 LOW 70.02 SEP 25 AND OTHERS

PRESTON COUNTY

393306079474501. Local number, 11-3-8.

LOCATION.--Lat 39°33'06", long 79°47'45", Hydrologic Unit 05020003, East Depot Street, Masontown.

Owner: G. E. Lemmons.

AQUIFER.--Pottsville Group of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 8 in., depth 785 ft, cased to 350 ft, perforated at or near Upper Freeport coal.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer, 1941-46, and 1948-50; digital water-level recorder--60-minute punch, 1946-48; monthly measurement by USGS personnel, 1950 to current year.

DATUM.--Elevation of land-surface datum is about 1,770 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of extended casing, 3.53 ft above land-surface datum. Prior to July 1978 measuring point was 3.00 ft below land-surface datum.

PERIOD OF RECORD.--July 1941 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.15 ft below land-surface datum, Jan. 20, 1947; lowest measured, 108 ft below land-surface datum, Feb. 3, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23, 1985	47.98	JAN 22, 1986	46.69	APR 21, 1986	47.45	JUL 21, 1986	46.83
NOV 25	43.77	FEB 19	46.13	MAY 27	47.86	AUG 22	47.85
DEC 30	46.17	MAR 26	47.54	JUN 23	47.79	SEP 22	47.72

PUTNAM COUNTY

382545081553101.

LOCATION.--Lat 38°25'45", long 81°55'31", Hydrologic Unit 05050008, about 2 mi south of I-64 Winfield exit on Poplar Fork Road.

Owner: Lloyd and Susie Fridley.

AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter 6 in., depth 102 ft, cased with steel.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 750 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 1.20 ft above land-surface datum.

PERIOD OF RECORD.--June 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 35.23 ft below land-surface datum, Feb. 19, 1986; lowest, 37.90 ft below land-surface datum, Aug. 9, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	37.25	36.28	35.65	36.09	35.55	35.64	36.30	37.27	36.28	36.68	37.89	37.47
10	37.33	36.03	35.63	36.26	35.61	35.65	36.20	37.53	36.54	37.19	37.80	37.57
15	37.32	35.99	35.51	36.44	35.53	35.57	36.54	36.72	36.53	36.94	37.71	37.46
20	37.40	36.02	35.62	36.16	35.27	35.67	36.47	36.51	36.84	37.10	37.63	37.51
25	36.52	35.81	35.80	36.02	35.53	36.01	36.58	36.15	37.31	37.38	37.45	37.53
EOB	36.56	35.38	36.06	36.04	35.42	36.14	36.95	35.89	37.34	37.68	37.37	37.36

WTR YR 1986 HIGH 35.25 FEB 19 LOW 37.89 AUG 5

RANDOLPH COUNTY

385341079575401. Local number, 18-3-110.

LOCATION.--Lat 38°53'41", long 79°57'54", Hydrologic Unit 05020001, 0.20 mi east of Coalton High School, Coalton.

Owner: Presbyterian Church.

AQUIFER.--Homewood Sandstone Member of Kanawha Formation of Early Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled exploratory water-table well, diameter 6 in., depth 155 ft, cased to 18 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by USGS personnel, 1966-67; digital water-level recorder--60-minute punch, 1968-77; periodic measurement with chalked tape by USGS personnel, 1977 to current year.

DATUM.--Elevation of land-surface datum is 2,171 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.60 ft above land-surface datum. Prior to Jan. 4, 1983, measuring point was 2.45 ft above land-surface datum.

REMARKS.--Water level affected by nearby pumping.

PERIOD OF RECORD.--December 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.85 ft below land-surface datum, Dec. 12, 1966; lowest, 23.35 ft below land-surface datum, Oct. 28, 1971.

NOTE.--Water-level measurement Oct. 17, 1985, 19.10 ft below land-surface datum. Water-level measurement May 8, 1986, 14.90 ft below land-surface datum.

385100079522901. Project number, H-63.

LOCATION.--Lat 38°51'00", long 79°52'29", Hydrologic Unit 05020001, 1,800 ft west of U.S. Route 250 and 0.60 mi north of intersection of State Route 33 and U.S. Route 250, at Beverly.

Owner: Edsel Lucas.

AQUIFER.--Shale of Upper-Middle Devonian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 98 ft, cased with plastic to 14 ft.

INSTRUMENTATION.--Periodic measurement with chalked tape by USGS personnel, 1978-79, and 1982 to current year; digital water-level recorder--60-minute punch, 1979-82.

DATUM.--Elevation of land-surface datum is about 1,940 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 3.00 ft above land-surface datum.

REMARKS.--U.S. Geological Survey Test Well No. 2. Geologic log and aquifer test data available. At times, water level affected by stage of Tygart Valley River.

PERIOD OF RECORD.--November 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.00 ft above land-surface datum, Mar. 20, 1982; lowest, 3.60 ft below land surface datum, Oct. 16, 1985.

NOTE.--Water level measurement Oct. 16, 1985, 3.60 ft below land-surface datum. Water-level measurement May 8, 1986, 2.90 ft below land-surface datum.

RITCHIE COUNTY

391226081024901. Local number, 28-3-3.

LOCATION.--Lat 39°12'26", long 81°02'49", Hydrologic Unit 05030203, at Stout and East South Street, Harrisville.

Owner: Terry Stonestreet.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 118 ft, cased with steel.

INSTRUMENTATION.--Weekly measurements with chalked tape by observer, 1966; graphic water-level recorder, 1968-70; digital water-level recorder--60-minute punch, 1970-75; monthly measurements with chalked tape by USGS personnel, 1975-76; digital water-level recorder--60-minute punch, 1976 to current year.

DATUM.--Elevation of land-surface datum is about 840 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.20 ft above land-surface datum.

REMARKS.--Formerly public-supply well. No water-level data collected November 1966 to March 1968.

PERIOD OF RECORD.--August 1966 to October 1966, April 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.46 ft below land-surface datum, Jan. 25, 1978; lowest measured, 21.80 ft below land-surface datum, Sept. 7, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	20.30	18.98	19.07	19.52	18.79	19.11	19.98	20.00	20.22	19.89	20.59	20.14
10	20.49	19.28	19.24	19.56	19.07	19.00	19.69	20.24	20.44	19.93	20.63	20.37
15	20.44	19.24	19.01	20.04	19.16	18.84	19.74	20.30	20.15	20.10	20.72	20.45
20	20.32	19.39	19.18	19.33	18.83	19.35	19.74	20.18	20.17	19.87	20.62	20.51
25	19.43	19.30	19.42	18.98	19.12	19.63	19.67	20.13	20.58	20.16	20.21	20.39
EOB	19.55	18.82	19.35	19.50	19.27	19.81	19.98	20.04	20.06	20.36	20.20	19.71

WTR YR 1986 HIGH 18.70 NOV 28 AND OTHERS LOW 20.79 AUG 18

TUCKER COUNTY

390135079275601. Local number, 15-6-17.

LOCATION.--Lat 39°01'35", long 79°27'56", Hydrologic Unit 05020004, at Canaan Valley State Park off W. Va. State Route 32.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Pocono Group of Lower Mississippian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 281 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer, 1971-75; periodic measurement by USGS personnel, 1978-80; digital water-level recorder--60-minute punch, 1980 to current year.

DATUM.--Elevation of land-surface datum is about 3,275 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelter base, 1.60 ft above land-surface datum. Prior to May 29, 1980 measuring point was top of casing, 1.55 ft above land-surface datum.

REMARKS.--No water-level data collected January 1975 to March 1978. No water-level record Feb. 27 to Mar. 25, Apr. 27 to May 11, June 11 to July 7, Aug. 10 to Sept. 9 due to recorder malfunction.

PERIOD OF RECORD.--June 1971 to December 1975, April 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.48 ft below land-surface datum, Nov. 5, 1985; lowest measured, 11.54 ft below land-surface datum, July 19, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.42	5.75	9.27	9.99	7.92	---	9.95	---	10.72	---	10.30	---
10	10.55	9.08	9.50	10.12	9.27	---	9.07	---	10.11	9.52	---	10.51
15	10.48	9.36	8.81	10.18	9.63	---	9.90	10.51	---	9.84	---	10.60
20	10.22	9.40	9.45	9.18	8.30	---	10.08	10.27	---	10.11	---	10.52
25	9.20	9.10	9.73	9.47	9.10	---	10.27	10.74	---	10.27	---	10.50
EOM	9.74	7.98	9.94	9.81	---	10.11	---	10.62	---	10.39	---	10.22

WTR YR 1986 HIGH 5.75 NOV 5 LOW 10.89 JUN 1

TYLER COUNTY

393211081021201. Project number, 8028.

LOCATION.--Lat 39°32'11", long 81°02'12", Hydrologic Unit 05030201, 2.50 mi southwest of Sistersville on Route 2, 15 ft northwest of gravel road, between railroad and river.

Owner: U.S. Geological Survey.

AQUIFER.--Monongahela Formation of the Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 70 ft, cased with steel to 58 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 620 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of well casing, 3.90 ft above land-surface datum.

REMARKS.--Aquifer test data available.

PERIOD OF RECORD.--November 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.05 ft below land-surface datum, Nov. 29, 1985; lowest, 22.69 ft below land-surface datum, Oct. 3, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	18.98	15.02	15.51	18.51	13.22	18.51	18.75	18.90	18.96	18.48	19.01	18.62
10	19.13	17.24	17.24	18.88	15.20	18.63	18.24	18.91	18.97	17.90	18.54	18.53
15	19.08	15.15	14.48	18.96	17.32	15.26	18.55	18.93	17.56	18.80	19.27	18.82
20	18.84	15.32	17.82	17.75	13.24	16.33	17.97	19.00	18.27	18.90	18.49	18.61
25	19.16	16.90	18.40	16.07	15.42	18.18	18.02	19.00	19.06	18.84	19.03	18.67
EOM	18.62	7.94	18.82	18.59	16.36	18.68	18.53	18.85	18.98	19.11	18.47	18.95

WTR YR 1986 HIGH 7.08 NOV 29 LOW 19.32 AUG 19

WAYNE COUNTY

375827082211501. Local number, 50-6-5.

LOCATION.--Lat 37°58'27", long 82°21'15", Hydrologic Unit 05090102, on Cabwaylingo State Forest on Secondary State Route 35.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Kanawha Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 119 ft, cased with steel to 10 ft.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 740 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing cover, 1.33 ft above land-surface datum. Prior to Nov. 27, 1979 measuring point was top of casing, 1.30 ft above land-surface datum.

PERIOD OF RECORD.--May 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.17 ft below land-surface datum, Feb. 19, 1986; lowest measured, 32.17 ft below land-surface datum, July 21, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1985	29.47	JAN 01, 1986	29.12	APR 02, 1986	29.12	JUL 02, 1986	28.97
09	29.37	08	29.42	09	29.37	09	29.57
16	29.32	15	29.32	16	29.17	16	29.27
23	29.07	22	28.82	23	29.17	23	29.47
30	29.42	29	28.32	30	29.37	30	29.62
NOV 06	29.37	FEB 05	27.77	MAY 07	29.47	AUG 06	29.97
13	29.22	12	27.97	14	29.17	13	29.77
20	29.22	19	27.17	21	28.82	20	29.57
27	29.22	26	28.27	28	28.97	27	30.07
DEC 04	29.17	MAR 05	28.47	JUN 04	29.37	SEP 03	29.82
11	29.17	12	28.47	11	28.77	10	29.67
18	29.12	19	28.07	18	29.47	17	29.67
25	28.77	26	28.77	24	29.12	24	29.57

WEBSTER COUNTY

382008080292801. Project number, M006.

LOCATION.--Lat 38°20'08", long 80°29'28", Hydrologic Unit 05050005, at Bishop Knob Campground about 0.50 mi from Junction of U.S. Forest Service Roads 81 and 82 and about 4 mi from Dyer.

Owner: U.S. Forest Service.

AQUIFER.--Kanawha Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 80 ft, cased with galvanized iron to 60 ft.

INSTRUMENTATION.--Periodic measurement with chalked tape by USGS personnel, 1980-82; digital water-level recorder--60-minute punch, 1982 to current year.

DATUM.--Elevation of land-surface datum is about 3,100 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of extended casing, 2.00 ft above land-surface datum.

REMARKS.--No water-level record Oct. 1-11, Apr. 1-22, due to recorder malfunction.

PERIOD OF RECORD.--March 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.05 ft below land-surface datum, Jan. 7, 1985; lowest, 27.02 ft below land-surface datum, Oct. 15, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	24.49	21.72	23.13	22.70	22.87	---	22.82	23.92	24.34	24.40	22.21
10	---	23.42	22.00	23.30	22.40	23.33	---	23.23	24.61	23.86	24.81	22.34
15	26.00	23.01	21.60	23.31	22.61	22.68	---	23.76	24.78	24.11	24.99	22.75
20	25.99	22.69	21.68	23.31	22.57	22.40	---	23.93	25.06	23.99	24.67	23.49
25	25.58	22.38	22.13	22.97	22.34	23.01	23.12	23.22	25.37	23.97	23.42	23.79
EDM	25.00	21.82	22.98	22.81	22.33	23.33	22.76	23.23	25.42	23.92	22.50	23.60

WTR YR 1986 HIGH 21.51 DEC 17 LOW 26.13 OCT 17 AND OTHERS

WETZEL COUNTY

392858080373401. Local number, 6-6-8.

LOCATION.--Lat 39°28'58", long 80°37'34", Hydrologic Unit 05030201, on Secondary State Route 82 in Lewis-Wetzel Public Hunting Area near Jacksonburg.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 76 ft, cased with steel.

INSTRUMENTATION.--Weekly measurements with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 890 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.10 ft above land-surface datum.

PERIOD OF RECORD.--September 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.10 ft below land-surface datum, Nov. 28, 1973;

lowest measured, 20.90 ft below land-surface datum, Oct. 5, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1985	11.90	JAN 15, 1986	14.30	APR 16, 1986	18.20	JUL 23, 1986	15.80
09	13.00	22	10.10	23	17.30	30	16.90
23	17.90	29	11.60	30	10.20	AUG 07	16.50
30	16.80	FEB 05	11.30	MAY 07	13.10	13	17.10
NOV 06	17.90	13	10.70	21	14.10	20	17.60
12	14.60	19	9.30	29	14.00	27	15.70
20	15.90	26	15.80	JUN 04	16.50	SEP 03	16.80
27	13.80	MAR 06	16.50	12	15.50	11	17.90
DEC 04	16.90	12	16.70	18	17.50	17	18.10
12	11.60	19	10.50	25	18.50	24	18.50
20	17.60	26	15.60	JUL 02	13.90		
31	13.40	APR 02	12.20	09	13.90		
JAN 08, 1986	13.80	09	13.50	18	12.40		

WYOMING COUNTY

373839081255201. Local number, 54-2-12.

LOCATION.--Lat 37°38'39", long 81°25'52", Hydrologic Unit 05070101, at Twin Falls State Park.

Owner: U.S. Geological Survey.

AQUIFER.--New River Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 80 ft, cased with steel to 28 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 2,015 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelter floor, 2.62 ft above land-surface datum.

REMARKS.--Aquifer test data available. Water-level record affected by nearby pumping at times.

PERIOD OF RECORD.--December 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.19 ft below land-surface datum, Mar. 13, 1980; lowest, 47.17 ft below land-surface datum, Nov. 2, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	43.76	46.96	36.52	28.54	25.99	24.85	26.29	31.04	27.67	33.27	39.05	41.74
10	44.39	44.88	34.96	28.32	25.72	24.60	26.57	30.77	27.50	34.32	40.32	41.23
15	45.26	43.77	33.03	28.27	25.53	24.56	28.28	30.14	27.23	33.73	41.24	41.17
20	46.05	43.05	31.26	27.63	25.21	24.68	28.39	29.06	28.88	34.47	42.08	41.58
25	46.71	41.28	30.05	27.16	25.03	24.96	29.57	28.06	32.17	36.09	42.40	41.10
EDM	47.00	38.81	29.40	26.94	25.08	24.83	29.80	27.21	34.65	37.63	42.33	39.68

WTR YR 1986 HIGH 24.45 MAR 16 LOW 47.14 NOV 2

SPECIAL STUDY AND MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

380935079590301 - MINNEHAHA SPRINGS

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	BICAR- BONATE WH WAT TOTAL FIELD MG/L AS HCO3	CAR- BONATE WH WAT TOTAL FIELD MG/L AS CO3
OCT 03...	1310	234	7.70	20.5	120	35	41	5.1	2.1	110	0
APR 24...	1030	220	7.60	20.0	120	20	41	5.2	2.2	130	0

DATE	ALKA- LINEITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	TRITIUM TOTAL (PCI/L)
OCT 03...	88	35	0.90	165	80	80	<3	10	1	--
APR 24...	104	31	0.80	160	50	50	<3	10	<1	<10

390745078282201 - CAPON SPRING

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	BICAR- BONATE WH WAT TOTAL FIELD MG/L AS HCO3	CAR- BONATE WH WAT TOTAL FIELD MG/L AS CO3
OCT 01...	1500	290	7.20	18.0	140	12	46	5.7	1.2	150	0
APR 22...	1430	238	7.20	18.0	140	0	46	5.8	1.2	180	0

DATE	ALKA- LINEITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	TRITIUM TOTAL (PCI/L)
OCT 01...	126	7.0	0.80	152	60	60	4	10	<1	--
APR 22...	147	7.4	0.80	156	40	40	<3	<10	<1	<1.0

SPECIAL STUDY AND MISCELLANEOUS SITES

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

393734078134601 - BERKLEY SPRINGS

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	BICAR- BONATE WH WAT TOTAL FIELD MG/L AS HCO3	CAR- BONATE WH WAT TOTAL FIELD MG/L AS CO3
OCT 01...	1030	265	7.10	22.0	140	21	49	5.0	4.4	150	0
APR 21...	1430	263	6.70	22.0	140	0	48	4.9	4.6	180	0

DATE	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	TRITIUM TOTAL (PCI/L)
OCT 01...	122	16	5.3	175	110	100	10	10	<1	--
APR 21...	147	14	2.7	170	30	30	<3	<10	<1	6.0

The following three page table summarizes the water-quality data collected for a ground-water resources investigation of Marshall County. The investigation was conducted in cooperation with the Marshall County Commission. The data presented herein were obtained during 1985. The table contains physical and chemical data for water from wells and springs in Marshall County. The sites are sequentially numbered in order of increasing latitude and longitude. These data were used in preparation of an interpretive report entitled "Ground-water hydrology of Marshall County, West Virginia, with emphasis on the effects of longwall coal mining", by R. A. Shultz, U. S. Geological Survey Water-Resources Investigations 88-4006.

REF. NO.	STATION NUMBER	DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
2	394317080465201	07-25-85	1605	154.00	415	7.40	13.0	180	3
11	394346080354301	08-07-85	1230	314.00	700	7.60	22.0	110	0
13	394359080403201	07-25-85	0940	92.00	465	7.60	12.0	210	26
14	394408080491201	07-25-85	1700	33.50	560	7.30	19.0	270	10
16	394413080444501	07-25-85	1515	110.00	1200	7.30	19.0	550	320
17	394415080444701	07-25-85	1415	--	880	7.70	18.0	430	230
22	394426080363301	07-25-85	0835	100.00	370	7.00	20.0	180	35
27	394443080423301	07-25-85	1220	120.00	570	7.40	21.0	280	44
37	394504080402001	07-25-85	1040	--	560	7.60	19.0	260	32
48	394552080313901	08-07-85	0950	--	357	7.80	20.0	180	31
58	394609080482401	07-30-85	0830	77.90	435	7.30	23.0	210	0
59	394611080455201	07-30-85	1145	94.00	625	7.20	23.0	330	33
64	394632080344101	08-07-85	1100	307.00	410	8.50	18.5	25	0
66	394637080431901	07-30-85	1510	--	540	7.50	17.0	110	0
68	394643080374701	08-07-85	1400	125.00	460	7.70	19.0	230	5
77	394725080463901	07-30-85	1100	--	570	7.50	20.0	290	38
89	394742080475801	07-30-85	0945	53.00	1300	9.00	15.0	3	0
91	394743080410601	07-30-85	1600	165.00	495	7.40	18.0	220	5
92	394743080453601	07-30-85	1410	65.00	435	7.30	22.0	200	0
101	394803080314101	07-24-85	0910	70.00	340	7.40	17.0	160	34
107	394830080422701	07-31-85	1000	--	515	7.80	20.0	260	39
110	394832080422401	07-31-85	1050	43.00	645	7.50	13.5	240	62
116	394839080344801	08-07-85	1645	115.00	445	7.60	22.0	210	25
120	394848080341101	07-24-85	1530	--	280	7.30	21.0	140	18
126	394903080394301	07-30-85	1700	--	380	7.40	21.0	190	44
129	394913080372201	07-24-85	1035	165.00	425	7.60	20.0	200	11
132	394918080470201	07-30-85	1300	70.00	745	7.40	12.0	310	64
139	394944080315201	07-24-85	1215	42.00	405	7.20	16.0	92	0
145	394952080393001	08-07-85	1500	125.00	465	7.50	22.0	240	33
157	395048080313101	07-24-85	1315	120.00	760	9.20	15.0	10	0
158	395056080344101	07-24-85	1415	--	386	7.40	17.5	180	29
159	395104080380201	07-24-85	1800	110.00	670	7.40	17.0	320	140
166	395132080422801	07-31-85	1210	108.00	680	8.00	18.0	62	0
183	395207080412201	07-31-85	1300	110.00	800	7.80	19.0	340	160
189	395226080344901	07-24-85	1700	125.00	440	7.90	20.5	220	71
193	395229080314301	07-17-85	0915	98.00	520	7.80	20.0	270	110
194	395231080370601	07-29-85	1010	36.00	605	8.90	16.0	3	0
195	395243080423401	07-31-85	1350	100.00	575	7.30	22.0	310	100
204	395308080384201	08-07-85	1720	47.00	575	8.20	16.5	78	0
224	395346080401901	07-29-85	1545	95.00	700	7.30	13.0	330	63
228	395402080402701	07-29-85	1630	--	420	8.10	23.0	230	54
240	395421080350901	07-29-85	1120	125.00	620	6.90	18.0	300	93
243	395425080465401	08-06-85	1230	--	540	7.70	20.0	270	88
244	395428080380801	07-29-85	1415	--	490	7.30	15.0	210	73
246	395431080380901	07-29-85	1330	70.00	445	7.50	15.0	160	15
256	395526080315301	07-17-85	1045	42.50	405	7.80	15.5	170	65
260	395546080381401	07-29-85	1745	75.00	460	7.20	17.0	220	18
262	395547080414201	07-31-85	1600	168.00	750	8.00	16.0	55	0
263	395558080333601	07-17-85	1230	--	315	7.40	19.0	150	45
283	395626080353201	07-29-85	1215	90.00	570	7.30	20.0	280	56
292	395658080444801	07-31-85	1700	37.00	370	7.90	24.5	34	0
296	395726080404001	08-01-85	0830	--	515	7.20	21.0	290	60
300	395733080383701	08-01-85	0940	--	430	7.30	19.0	230	41
303	395735080384801	08-01-85	1025	96.00	650	7.30	14.0	320	83
304	395736080330601	07-17-85	1615	82.00	700	7.50	12.0	210	0
313	395747080311701	07-17-85	1330	100.00	900	7.80	22.0	190	0
317	395800080350801	07-18-85	1200	54.92	930	9.00	14.0	5	0
320	395807080430201	08-01-85	1150	157.00	655	7.20	15.0	330	88
323	395828080365601	07-18-85	1530	100.00	540	8.00	20.5	100	0
327	395833080392601	07-19-85	0800	139.60	570	7.30	20.0	190	0
349	395921080400601	07-19-85	0930	--	675	7.30	17.0	340	130
351	395924080400601	07-19-85	1015	80.00	515	7.40	13.0	210	47
352	395925080321801	07-17-85	1520	151.00	500	7.70	21.0	250	37
356	395940080350901	07-18-85	1420	117.00	530	6.70	21.0	130	0
364	400003080361701	07-18-85	1315	--	615	6.70	19.0	310	69
374	400031080381702	07-18-85	1630	160.00	1250	8.80	20.0	7	0
380	400041080312201	07-18-85	1000	75.00	505	7.40	19.0	270	59
382	400043080334101	07-18-85	1050	41.00	500	7.50	14.0	210	65
383	400048080423601	08-02-85	0915	97.50	560	7.40	17.5	290	57
391	400104080364701	07-18-85	0820	--	470	7.90	18.0	240	57
397	400116080403701	07-26-85	0740	140.00	495	8.00	18.0	120	0
396	400116080404201	07-26-85	0830	--	540	7.40	16.0	270	75

GROUND-WATER QUALITY DATA FOR MARSHALL COUNTY

REF. NO.	DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
2	07-25-85	52	11	12	1.0	172	31	5.9	0.20
11	08-07-85	29	8.7	100	2.2	235	54	32	0.30
13	07-25-85	49	21	6.8	1.6	183	25	8.8	0.20
14	07-25-85	72	23	18	1.4	265	56	7.8	0.20
16	07-25-85	170	31	27	1.6	236	290	41	0.20
17	07-25-85	130	26	15	1.7	201	230	13	0.20
22	07-25-85	59	7.6	9.2	6.2	144	35	8.4	0.10
27	07-25-85	78	21	12	1.5	237	39	21	0.10
37	07-25-85	74	19	16	1.4	231	50	9.6	0.20
48	08-07-85	54	12	6.8	1.6	153	48	2.1	<0.10
58	07-30-85	60	15	20	1.1	220	30	4.9	<0.10
59	07-30-85	83	31	11	1.8	302	37	13	<0.10
64	08-07-85	6.2	2.2	93	1.6	198	21	3.1	0.40
66	07-30-85	31	7.1	73	1.9	298	3.2	2.4	0.30
68	08-07-85	62	19	13	1.5	228	36	1.7	0.20
77	07-30-85	94	13	12	1.0	250	51	12	0.30
89	07-30-85	0.85	0.29	300	0.40	526	35	91	3.1
91	07-30-85	67	14	21	1.1	220	48	3.4	<0.10
92	07-30-85	58	14	18	1.5	218	25	2.7	<0.10
101	07-24-85	46	11	7.4	2.6	126	33	7.3	<0.10
107	07-31-85	71	21	7.4	1.4	225	38	7.1	<0.10
110	07-31-85	72	15	14	6.0	180	62	8.5	0.30
116	08-07-85	66	11	13	1.2	185	27	19	0.20
120	07-24-85	45	7.5	3.5	1.0	125	23	2.4	<0.10
126	07-30-85	63	7.7	4.8	1.9	145	37	4.4	<0.10
129	07-24-85	57	15	16	1.3	193	34	5.3	0.10
132	07-30-85	110	9.6	25	4.1	250	90	7.1	0.10
139	07-24-85	28	5.3	52	3.5	159	22	17	0.20
145	08-07-85	68	18	5.1	1.2	211	40	5.5	<0.10
157	07-24-85	3.0	0.52	190	0.60	386	8.5	9.0	1.1
158	07-24-85	60	8.4	7.8	0.80	155	41	1.2	0.20
159	07-24-85	96	19	20	4.6	182	110	19	0.20
166	07-31-85	14	6.5	140	1.1	336	36	3.0	0.20
183	07-31-85	97	24	19	1.8	183	54	99	<0.10
189	07-24-85	66	14	5.0	1.0	151	33	29	0.10
193	07-17-85	80	18	4.3	1.1	--	42	16	0.20
194	07-29-85	1.1	0.18	140	0.30	294	19	10	0.70
195	07-31-85	98	17	9.7	1.2	213	66	15	0.20
204	08-07-85	24	4.3	97	0.70	266	21	7.8	0.50
224	07-29-85	97	22	10	1.3	270	74	8.0	<0.10
228	07-29-85	79	9.0	5.8	0.80	180	50	7.7	<0.10
240	07-29-85	100	11	10	1.3	202	66	23	0.20
243	08-06-85	97	7.4	6.1	1.6	185	66	15	0.20
244	07-29-85	74	6.3	6.7	2.0	138	51	11	<0.10
246	07-29-85	60	3.0	21	0.50	147	41	6.9	0.10
256	07-17-85	53	9.2	11	1.5	105	66	8.4	0.20
260	07-29-85	71	10	8.7	1.0	200	31	5.0	0.10
262	07-31-85	17	3.0	150	1.0	268	85	5.7	0.30
263	07-17-85	51	4.7	4.1	1.1	102	40	5.1	0.10
283	07-29-85	89	15	7.2	1.0	228	61	7.0	0.20
292	07-31-85	9.4	2.6	78	0.60	145	19	16	1.0
296	08-01-85	99	9.4	4.2	1.0	226	46	8.5	0.20
300	08-01-85	72	12	6.1	1.0	188	44	7.2	0.20
303	08-01-85	90	23	16	1.8	236	50	38	0.10
304	07-17-85	64	13	60	1.1	350	9.1	8.8	0.60
313	07-17-85	57	11	130	1.6	313	15	110	0.90
317	07-18-85	1.2	0.41	210	0.90	403	45	11	1.1
320	08-01-85	93	24	13	1.5	243	74	22	0.10
323	07-18-85	25	9.4	92	1.3	290	21	5.7	0.30
327	07-19-85	47	18	65	1.1	266	51	10	0.20
349	07-19-85	110	15	9.5	2.3	207	87	20	<0.10
351	07-19-85	70	7.8	18	1.1	160	47	14	0.30
352	07-17-85	69	20	9.3	1.7	218	51	4.3	<0.10
356	07-18-85	34	9.8	74	1.3	265	31	6.3	0.30
364	07-18-85	90	21	11	1.8	242	77	4.9	0.10
374	07-18-85	1.8	0.60	300	0.70	530	43	74	1.7
380	07-18-85	73	21	6.3	1.5	210	37	10	<0.10
382	07-18-85	69	10	18	2.8	148	51	9.4	0.20
383	08-02-85	82	20	11	1.5	230	68	9.2	0.20
391	07-18-85	77	11	11	1.0	181	61	8.0	0.10
397	07-26-85	33	8.0	71	1.2	190	55	9.4	0.20
396	07-26-85	70	23	7.7	1.9	195	65	7.5	0.20

REF. NO.	DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, DIS- SOLVED (MG/L AS PO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
2	07-25-85	11	226	230	0.650	<0.010	--	16	25
11	08-07-85	8.5	393	380	0.490	<0.010	--	7	3
13	07-25-85	9.4	278	230	3.20	<0.010	--	<3	<1
14	07-25-85	9.1	334	350	0.210	<0.010	--	3	<1
16	07-25-85	14	825	720	0.980	<0.010	--	19	8
17	07-25-85	11	686	550	1.90	<0.010	--	5	20
22	07-25-85	9.5	247	220	3.60	<0.010	--	13	240
27	07-25-85	10	347	320	4.60	0.010	0.03	5	2
37	07-25-85	10	335	320	2.70	<0.010	--	<3	1
48	08-07-85	9.7	239	230	0.220	0.030	0.09	6	2
58	07-30-85	9.6	278	270	0.270	<0.010	--	4	<1
59	07-30-85	9.9	391	370	3.00	<0.010	--	4	2
64	08-07-85	8.6	274	250	0.560	<0.010	--	15	<1
66	07-30-85	12	326	310	<0.100	<0.010	--	2500	110
68	08-07-85	12	291	280	<0.100	<0.010	--	6	<1
77	07-30-85	11	380	340	0.430	<0.010	--	9	130
89	07-30-85	7.0	717	750	<0.100	0.020	0.06	23	1
91	07-30-85	12	311	300	0.300	<0.010	--	<3	1
92	07-30-85	18	275	270	0.140	<0.010	--	7	5
101	07-24-85	7.6	227	190	2.00	0.080	0.25	25	6
107	07-31-85	8.9	337	290	4.80	<0.010	--	3	3
110	07-31-85	8.8	336	300	0.710	0.380	1.2	30	6
116	08-07-85	7.7	291	260	0.970	<0.010	--	14	6
120	07-24-85	8.8	167	170	0.280	0.020	0.06	<3	4
126	07-30-85	10	247	220	3.80	<0.010	--	5	2
129	07-24-85	9.6	262	250	0.710	<0.010	--	<3	<1
132	07-30-85	8.4	476	400	0.590	<0.010	--	5	<1
139	07-24-85	11	276	230	1.90	0.010	0.03	13	10
145	08-07-85	9.2	311	270	1.70	<0.010	--	5	3
157	07-24-85	6.7	449	450	<0.100	0.120	0.37	18	7
158	07-24-85	10	232	220	0.110	<0.010	--	4	7
159	07-24-85	8.5	432	390	11.0	0.080	0.25	19	3
166	07-31-85	7.9	409	410	<0.100	<0.010	--	6	<1
183	07-31-85	11	520	420	0.530	<0.010	--	<3	2
189	07-24-85	9.5	268	250	1.90	<0.010	--	<3	5
193	07-17-85	9.1	350	270	16.0	<0.010	--	10	2
194	07-29-85	8.0	376	360	<0.100	0.040	0.12	24	6
195	07-31-85	9.6	400	340	2.60	<0.010	--	5	2
204	08-07-85	9.4	338	320	<0.100	<0.010	--	10	15
224	07-29-85	11	428	390	0.140	<0.010	--	15	2
228	07-29-85	12	287	270	3.10	<0.010	--	3	<1
240	07-29-85	12	--	340	6.70	0.010	0.03	7	2
243	08-06-85	10	351	310	1.50	<0.010	--	5	1
244	07-29-85	12	296	250	0.750	0.030	0.09	6	1
246	07-29-85	11	272	230	5.20	<0.010	--	37	12
256	07-17-85	8.4	233	220	3.80	<0.010	--	7	4
260	07-29-85	14	276	260	<0.100	0.060	0.18	12	56
262	07-31-85	6.4	447	430	<0.100	<0.010	--	7	21
263	07-17-85	11	186	180	2.60	<0.010	--	7	2
283	07-29-85	8.6	367	330	3.40	<0.010	--	<3	1
292	07-31-85	4.3	247	220	<0.100	<0.010	--	80	46
296	08-01-85	8.8	340	310	4.10	<0.010	--	5	2
300	08-01-85	9.6	303	260	1.40	<0.010	--	6	<1
303	08-01-85	9.1	403	370	3.20	0.020	0.06	5	<1
304	07-17-85	11	348	380	<0.100	<0.010	--	1500	300
313	07-17-85	14	523	530	<0.100	0.010	0.03	9	930
317	07-18-85	6.6	532	520	<0.100	<0.010	--	35	9
320	08-01-85	9.9	429	380	2.70	<0.010	--	13	1
323	07-18-85	14	369	340	0.380	0.020	0.06	3	<1
327	07-19-85	7.7	366	360	0.620	<0.010	--	<3	7
349	07-19-85	10	437	380	8.90	0.020	0.06	4	<1
351	07-19-85	7.9	293	260	5.60	<0.010	--	3	4
352	07-17-85	9.3	290	300	1.40	<0.010	--	5	2
356	07-18-85	8.4	342	320	0.130	<0.010	--	<3	<1
364	07-18-85	10	412	360	2.70	<0.010	--	7	3
374	07-18-85	6.2	757	750	<0.100	0.030	0.09	180	96
380	07-18-85	8.9	322	280	6.90	<0.010	--	6	1
382	07-18-85	8.6	321	260	12.0	0.080	0.25	9	3
383	08-02-85	11	377	340	0.820	<0.010	--	5	2
391	07-18-85	10	303	290	4.30	0.010	0.03	4	5
397	07-26-85	11	307	300	0.120	<0.010	--	5	2
396	07-26-85	9.8	359	300	2.10	<0.010	--	5	8

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FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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